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SMITHFIELD, N. C.

COMMUNITY FACILITIES PLAN

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INTRODUCTION

With the rapid rise in today's standard of living and the subsequent growth of urban development, there has been a corresponding growth in the demand placed on municipal governments for more and better public services which the residents of these areas can no longer economically or efficiently provide for themselves. Not only has a high standard of living caused greater demands for such services, but a better educated public at large will not long tolerate temporary and substandard measures to meet every day needs of urban life.

Knowledgeable people are aware that in urbanized areas septic tanks and wells are basically temporary measures and, therefore, they demand the use of public water and sewer facilities. These people also realize that adequate drainage systems, adequate schools and recreation facilities, and adequate police and fire protection will increase property values and will help stem the tide of blight into a neighborhood.

While most of the public services discussed in this study are provided solely by the municipal government, some are provided jointly or separately by Johnston County. Nevertheless, these services are provided for the benefit of every citizen within the particular political jurisdiction. They are located and operated on public property by personnel hired by and responsible to municipal or county government. Since the facilities are operated for the benefit of the citizens, the local government has a responsibility to the people to operate and expand these facilities to meet current and future demands in the most economical manner. The expenditure of public money for community facilities is the greatest expenditure a municipality will make. Therefore, the facility should be carefully planned to insure that maximum benefit will be derived from such an expenditure.

Purpose

This community facilities report is an inventory and study of the existing public facilities in Smithfield for the purpose

of determining the adequacy of the facilities in meeting present and future needs, with recommendations for improving and correcting present deficiencies and for meeting future demands before the demand becomes acute. Hopefully, these finding and recommendations will be heeded by the officials of the municipality and sound action will result in wise investments for the future.

The planning period, for purposes of this report, is from 1965 to 1985. Recommendations of this study are correlated with the goals and objectives set forth in the Land Development Plan, Smithfield, N. C. published in 1965. Also, consideration was given to the impact the urbanized areas outside the corporate limits would have on the adequacy of the facilities if these areas should become a part of the municipality. For the purposes of this report, the urbanized area and the planning area will include all areas within the corporate limits of Smithfield, plus all areas within a one mile radius of these limits. There is one exception which should be noted. The one mile limit does not completely encompass West Smithfield although this report does include all of it for planning purposes. (See Map No. 1)

Methodology

Each facility was evaluated by the four basic steps listed below.

1. Information concerning the level of service, function, site, and location of each facility was collected by personal interview and field survey.
2. This information was evaluated and analyzed by the officials in charge of each facility and by professional consultants.
3. Standards, some of which were tailored to meet the needs of the Smithfield urban area and some of which were national standards, were applied to the present level of service to determine the adequacy of each facility.
4. Recommendations were set forth which would render each facility adequate throughout the planning period. Levels

TOTAL PLANNING AREA

- LEGEND
- MILE LIMIT
 - EXTERIOR URBAN AREA
 - CITY LIMITS



of service for each facility were established to accommodate the projected needs of the 1985 population.

Population Trends

In Smithfield's Land Development Plan, published in 1965, the past population growth was reviewed. The following statistics were listed for the population within the corporate limits.

TABLE NO. 1
POPULATION OF SMITHFIELD 1910 - 1960

<u>Year</u>	<u>Population</u>	<u>% Change</u>	<u>Numerical Change</u>
1910	1347	---	---
1920	1895	+40.7	+548
1930	2543	+34.2	+648
1940	3678	+44.6	+1135
1950	5574	+51.6	+1896
1960	6117	+9.7	+543

As shown above, Smithfield experienced a healthy rate of growth from 1910 to 1950 but this growth rate dropped suddenly from 1950 to 1960. This sudden drop is explained by a lack of annexation and a general lack of industrial expansion and re-location into the area which could provide jobs for the 20 to 35 year age group. The outmigration of this group is discussed in the Land Development Plan.

In December of 1965, a special census was conducted in Smithfield. The total population had increased to 6,316 - a total increase of only 199 for five years. If this growth rate continues, by 1970 an increase of 384 people can be expected. This is considerably less than the increase between 1950 and 1960.

Yet, an examination of the urban areas adjacent to Smithfield's city limits reveals a dwelling unit count of 706, five of which were vacant and not fit for human habitation. If the average population per occupied dwelling unit for 1960 of the rural nonfarm dwellings in Smithfield Township is used, (3.71 persons per dwelling), then the total fringe area population can be estimated at 2,601 persons. If this fringe area population is added to the 1965 census population, Smithfield's urban area can be said to contain 8,917 people as of December, 1965.

If these figures are projected in a straight line, then the population of the Smithfield area should be as follows:

TABLE NO. 2
POPULATION PROJECTIONS 1965 - 1985

<u>Year</u>	<u>Corporate Limits</u>	<u>Urban Fringe</u>	<u>Total</u>
1965	6,316	2,601	8,917
1970	6,501	2,884	9,385
1980	7,000	3,230	10,230
1985	7,300	3,424	10,724

These projections are based upon natural increase and a healthy growth rate as has been established according to past trends. However, they do not include the expected population increase brought on by industrial expansion in the planning area.

In recent months it has been established by the construction of new plant facilities that approximately 1,350 new industrial jobs are to be created by 1970 in the Smithfield area. The establishment of these new jobs will create a much greater increase than was projected in the above tables. According to the "Nation's Business Magazine" 1962, for each 100 new industrial jobs that are created there are 65 more nonmanufacturing jobs created. If this holds true in Smithfield there will be 2,227 new jobs created by 1970. There were 252 persons in 1965 unemployed and approximately 76 will remain unemployed even under the best economic conditions for the area by 1970. If this is true, then there will be 176 persons who will fill 176 of the new jobs created and the resultant number of new jobs will be 2,051 by 1970.

This increase in new jobs will mean that many new families will be migrating into the area, and if we assume that they will locate within the corporate limits of Smithfield, or within its fringe areas, then population projections can be made for the coming decades.

To estimate future populations by using industrial growth requires that work force ratios be used and that at least a two percent unemployment factor be used. Accordingly, we have the

following statistics for Smithfield and its fringe area:

1965 civilian work force	3,604
Less 2% unemployment	72
Total work force	3,532
Additional new jobs by 1970	2,051
Total civilian work force by 1970	5,583

In 1965, the total civilian work force represented 40.5% of the population of Smithfield and its fringe areas. If this ratio remains the same, then Smithfield and its fringe area will have an estimated population of 13,785 by 1970. The estimate for 1980 and 1985 would be based upon the expected return of normal growth which is approximately 12 percent each decade. Thus, the estimate would be 15,439 for 1980 and 16,364 for 1985. These estimates will be used as a basis for all recommendations which concern the population within the Smithfield planning area.

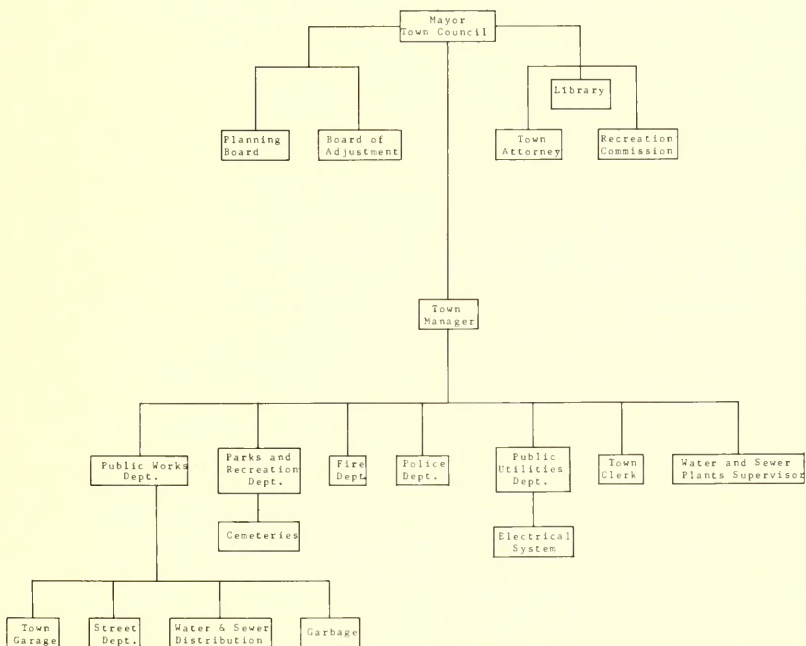
The growth of Smithfield itself is dependent upon annexation, as the majority of the above indicated growth is expected to take place within the adjoining fringe areas.

ADMINISTRATIVE ORGANIZATION

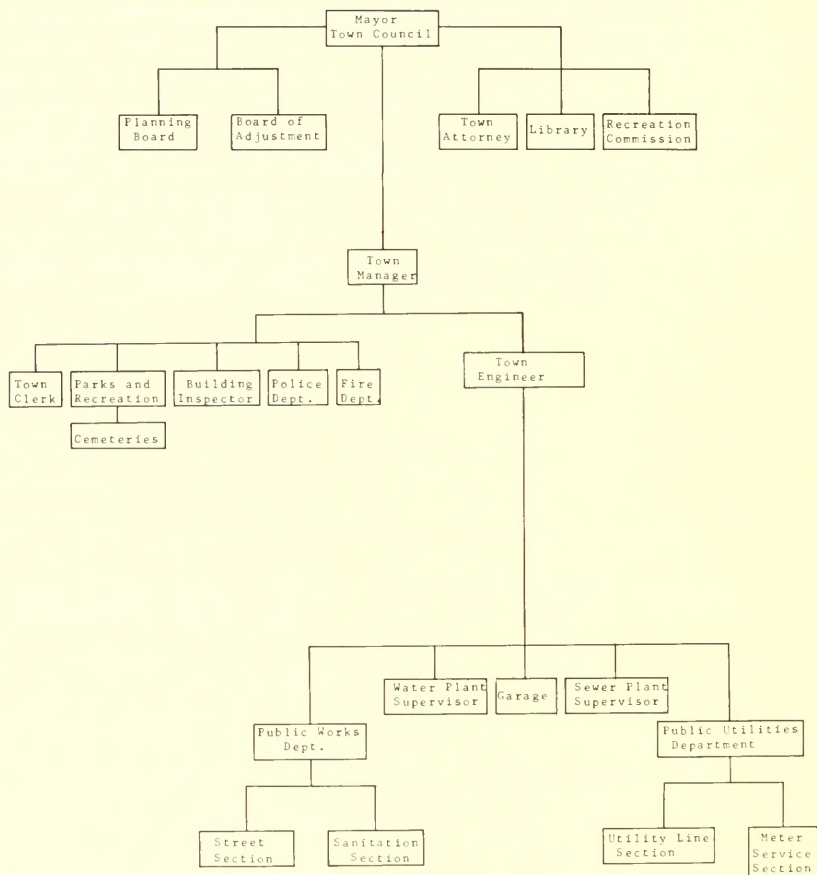
Prior to July 1, 1966, Smithfield had a Mayor-Board of Commissioners government. On July 1, the Town hired its first Town Manager and the Board of Commissioners changed their name to Town Council in order to comply with State Statutes.

The Town Council is composed of 7 members, elected for two-year staggered terms. The Mayor is elected for a three-year term.

An organizational chart of the town government after July 1, 1966 was as follows:



In the interest of increased organization efficiency, an analysis of this chart was made by the Town Manager and consultants from the Institute of Government in Chapel Hill. The following chart of new organizational lines of authority was decided upon by the Town Manager as the best way to streamline the town government for a better chain of command and more efficient operation.



It is felt by the Town Manager that this organizational method will be better able to handle the problems of Smithfield for the duration of the planning period. The only problem holding up the use of this organizational method is the hiring of a town engineer. It is anticipated his salary will be appropriated in the 1967-1968 budget and it is recommended that a town engineer be employed as soon as feasible.

MUNICIPAL BUILDING

Existing Facilities

Smithfield's Municipal Building, located at the corner of Johnston and Fourth Streets, is a converted hotel which was built in 1935. While the building itself is relatively old, the three story, brick structure is in sound physical condition. In addition to the three stories, there is a basement level. All four levels are served by an elevator.

The Police Department occupies a large portion of the basement. There are four rooms used by the Police Department. One is an office for the police chief and one is a "booking" room. The communications center, the largest room, has recently been partitioned off, affording more privacy and a more businesslike appearance. To one side is a large open workroom used for re-facing the town's street signs and for repairing parking meters. The remainder of the basement is used for storage.

The first floor is occupied by the offices of the Town Clerk, the Tax Collector, the water and light collections and clerical staff, and the public meeting hall used by the Town Council and Planning Board. The rear of the first floor is occupied by the County Health Center.

The offices of the Mayor, the Town Manager, the Parks and Recreation Department, the Director of Public Utilities, the County TB Association, the American Cancer Society, and the Chamber of Commerce are all located on the second floor of the Municipal Building.

At the present, most of the third floor is used for recreation. In the rear is a large room used for square dancing and for contract bridge. Arts and crafts classes are held in two smaller rooms. The remainder of the third floor is used for storage.

No parking is provided for town employees. Most of them use the lot immediately around the Municipal Building, leaving no room for customers and visitors.

Recommendations

1. Basement

It is recommended that the Police Chief's office be moved to the first floor and his basement office be used by the police captains. With the increased population predicted by 1985, police personnel will also increase and need additional space. Therefore, locker rooms with showers should be installed in the basement floor and space for clerical workers should be provided. The space now used for storage should remain until such time when this space will be needed by the police department. It is hoped by then, that the town will have moved its storage and garage facilities to a new location near the sanitary land-fill.

A retention cell should be built to house two prisoners while they are waiting to be processed and taken to the county jail.

2. First Floor

It is recommended that the County Health Department be moved to a new location in the vicinity of the Johnston Memorial Hospital. This vacated space should be used for the offices of the police and fire chiefs and the two detectives to be employed by 1985. Space should be made available for a large conference room to be used by all town departments.

At the rear of the clerk's office and in the vicinity of the vault, a lounge and canteen type room should be provided for the town employees.

3. Second Floor

It is recommended that the offices of the American Cancer Society, the Chamber of Commerce and the TB Association be moved to a new location to make room for the offices of all town department heads. In this location, all department heads will be readily available to the Mayor and Town Manager and communications will be simplified.

4. Third Floor

It is recommended that the entire third floor be utilized for recreation purposes.

5. It is felt that the present Municipal Building will be adequate throughout the planning period, but by 1985, it is hoped that a new recreation facility will be provided and the third floor can thus be used for other town purposes.
6. It is recommended that the town acquire additional parking space. As the population increases, the use of the Municipal Building will increase. The parking lot adjacent to the Municipal Building should be purchased or leased, if possible.

TOWN GARAGE

Existing Facilities

Smithfield's garage facilities are located behind the fire station on 4th Street. It occupies a lot approximately 100 by 210 feet of which the town owns half, and leases half. The portion owned by the town is paved and is occupied by a 36 by 40 feet garage, which contains two stalls to house vehicles while they are being serviced. The remainder of the lot is used for parking of the town vehicles when they are not in use. The garage maintains all vehicular equipment owned by the town.

The town garage is under the direction of the Superintendent of Public Works, who has his office in the garage. A mechanic and his helper are the only employees of the garage.

Equipment used by the garage includes an air compressor, a drill press, an electric welder, a steam jinny, a chain hoist, and an acetylene torch. The service truck used by the garage is owned by the mechanic and subsidized by the town.

Standards

1. A town with a population in excess of 5,000 should provide a self-sufficient garage to take care of any type of ordinary repair in order to keep "down time" and repair costs to town-owned vehicles to a minimum.
2. Parking areas utilized by town-owned vehicles and equipment should be paved, fenced, and protected from the elements.

Recommendations

1. Since the present town garage is located adjacent to the central business district, it is recommended that the entire garage facilities be moved to an area on the edge of town where traffic congestion is no problem. A site near the town's sanitary land-fill would be ideal and economical.

2. The new location should be fenced, lighted and paved. Sheltered space should be provided for street sweepers, street graders and other expensive equipment to protect it from the elements. The size of the site should take into consideration the new equipment which will be required by the increased population of 1985.
3. It is recommended that the new facilities double its present working space for the repair and servicing of the town's vehicles to four working stalls.
4. It is recommended that the personnel of the town garage be increased to two mechanics by 1970, and by 1985, three mechanics and three helpers should be employed to maintain the town's vehicles.
5. The town should provide a service truck.

FIRE PROTECTION

The Smithfield Volunteer Fire Department presently has a working agreement with Johnston County, whereby the county pays the Town of Smithfield, and all other rural and town fire departments in the county \$100 per month, for which all fire departments agree to cover the entire county as needed.

In addition, the Fire Department provides fire protection to the West Smithfield Sanitary District on a contract basis of \$100 per month. The Sanitary District in turn charges each of its customers \$.25 per month for this fire protection.

In 1963, the Fire Department had 76 calls, of which 38 were outside of the town limits. In 1964 and 1965, it answered 83 and 102 calls respectively, with more than 50% being outside of the town limits. At the present, Smithfield has a fire rating of 7 - a good rating for a town of its size when compared with other towns and cities in the state. However, this rating is adversely affected by the department's policy of answering calls outside of the town limits.

Since more than half of the calls answered were outside of the town limits, the \$2400 received by Smithfield from the county and from the West Smithfield Sanitary District is not nearly enough to pay for its share of the cost of fire protection. With a budget of \$14,475 for 1966-67, the town residents have to pay \$12,075 or approximately \$1000 a month for the same fire protection that the county gets for \$200 a month, plus the fact that the town residents have higher insurance rates because of the fire department's policy of answering calls outside of the town.

Despite what the cartoonists would have the public believe about firemen and their axes, fire fighting is a practical application of scientific knowledge. Even a small fire requires a smoothly operating team if property damage is to be kept to a minimum. Each man on the team has to know his part of the operation almost by rote. Fighting fires in areas where there is no water supply requires different tactics than used to fight fires where

there are hydrants and a plentiful supply of water. To avoid the danger of confusion which may result in excessive property damage and even loss of life, a fire company should be trained to operate in only one situation; either with water supply or without.

One of the most important responsibilities of any fire department is the prevention of fires through an organized fire hazard inspection program and through public awareness. The Smithfield Fire Department does not conduct fire hazard inspections, except in the schools. During Fire Prevention Week, the department sponsors a poster contest within the schools to illustrate home fire hazards and their prevention. In the past, there has been no participation by the local newspaper on home fire prevention.

Existing Facilities

The two pumper companies are housed in the town's only fire station located on Fourth Street between Market and Johnston Streets shown on Map No. 2. The station is a two story brick and concrete block structure. The entire upstairs is occupied by one full-time fireman and his family. The first floor houses the fire trucks and other miscellaneous fire fighting equipment. Located on the same lot is the old Municipal Building which is presently used for storage. The town garage is located behind the station.

The town's water system is one of its most important resources for fire fighting purposes. The operation arrangement of Smithfield's water system is fairly good yet there are many areas in which the system is deficient.

Many areas of the town do not have adequate water pressure and rates of flow for fire fighting. According to measurements by the North Carolina Fire Rating Bureau, rates of flow near a cotton storage warehouse was less than 1,000 GPM at a residual pressure of 20 PSI. The minimum rate of flow requirement for such an area is 1,750 GPM at 20 PSI of residual pressure.

Water hydrants in Smithfield now cover an average area of 300,000 square feet, but 120,000 to 200,000 square feet is considered the maximum area by the Fire Rating Bureau.

While Smithfield's raw water supply is plentiful, water treatment facilities can only process 1,000,000 gallons daily. Present daily consumption is in excess of 900,000 gallons. Maximum capacity will be passed in the next five years if present growth trends continue.

There are two water storage tanks, one with a 100,000 gallon capacity and another with a 300,000 gallon capacity - about enough water for a normal 12 hour period.

Personnel

The Smithfield Fire Department has one full-time employee and 26 volunteer firemen organized into two fighting companies. The current staff is as follows:

- 1 Chief
- 2 Assistant Chiefs
- 2 Captains
- 2 Lieutenants
- 3 Drivers
- 17 Firemen

Training is provided on a local basis at least once each month, at which time the firemen practice on old buildings donated to the department for destruction.

Since 1962, the department has sent four men each year to the State Fire College in Winston-Salem for a week of intensive training, at a cost to Smithfield of \$100 per man. This program is slated to be continued in the future.

The volunteer firemen are paid \$15 per month, and as volunteer firemen, they are eligible to join the North Carolina Firemen's Pension Fund by paying dues of \$5. per month. At the end of 30 years service they are eligible for a pension of \$50 per month for life.

Equipment

All fire department vehicles may be radio dispatched from the fire department, the police department, and the county sheriff's

office. The fire department is tied in with the Johnston County Fire Protection System. The Fire Chief and Assistant Fire Chiefs have radios in their personal cars, for the purpose of answering fire calls.

A breakdown of present fire prevention vehicles follows:

one	1938	500 GPM	Oren Pumper (in reserve)
one	1951	750 GPM	American-LaFrance Pumper
one	1964	1000 GPM	American-LaFrance Pumper
one	1956		Equipment Truck

The fire alarm system is one by which the firemen are alerted by telephone. When a call comes into the station, the dispatcher picks up one of two telephones, and automatically all the telephones of one company of volunteer firemen ring. If both companies are needed, both telephones are picked up. Normally, only one company responds to a call, leaving one company in reserve for protecting the remainder of the community. There are no fire alarm boxes located within the town. A siren located at the fire station is sounded to alert all firemen who are away from their telephones.

Standards

Exacting standards for the efficient operation of a volunteer fire department are difficult to establish since each community has various aspects that necessitate exceptions. Therefore, the adequacy of the Smithfield Fire Department's facilities shall be evaluated according to the criteria used by the N. C. Fire Insurance Rating Bureau and according to local needs ascertained from local officials.

I. Water Supply

- A. Water treatment facilities should supply a minimum of 140 gallons daily per capita.
- B. Treatment facilities should have an auxiliary power supply other than electricity, and the electric supply should be arranged so that a failure in any power line or other power device will not disable water service.
- C. Storage facilities should have the capacity to provide water for a 24 hour period if the treatment plant is disabled.

- D. The distribution system should be such that all lines are interconnecting with few deadends, and mains be of sufficient size to handle adequate water transmission.
- E. The spacing of valves should be sufficient so that no breakage or repair will shut down a length of pipe greater than 500 feet in the high value districts or greater than 800 feet in other sections and will not result in shutting down an artery.*
- F. Fire hydrants should be distributed so that each hydrant covers an average area of 120,000 to 200,000 square feet and each hydrant should be able to deliver 250 GPM from a 2½ inch outlet.*
- G. For the purpose of fire fighting, minimum fire flows should be available at a residual pressure of 20 PSI in the following sections of the town, according to the N. C. Fire Rating Bureau.
 - 1. Central business district 2,500-3,000 GPM
 - 2. Minor business areas, manufacturing, wholesale, hospital, and school areas 1,750-2,000 GPM
 - 3. High density residential areas 1,000-1,250 GPM
 - 4. Low density residential areas 500-750 GPM

II. Fire Department

A. Location of Fire Station.

- 1. The main station should be located in or adjacent to the central business district.
- 2. Other stations should be located in relation to building and population density, construction types, and to the existing degree of fire hazards.
- 3. A station should be located within one mile of industrial and commercial areas, and within one and three-quarter miles of residential districts.

* Source: Municipal Fire Administration, International City Manager's Association.

4. The station should be located on streets close to and leading into major thoroughfares to permit quick and safe exit and entrance of fire equipment.
5. Front and rear entrances should be provided for fire vehicles.
6. The building site should allow future expansion.

B. Fire Fighting Equipment

1. No fire vehicle should be more than 20 years old, except those held for reserve use.
2. If a town has as many as five buildings three or more stories high, at least one ladder truck should be provided.
3. A minimum of 1,000 feet of 2½ inch hose should be carried on each pumper vehicle.

C. Personnel

1. According to the American Insurance Association the number of pumper or engine companies in ratio to the population is:

<u>Population</u>	<u>No. of Pumper Companies</u>
1,250	1
9,580	2
17,900	3
26,300	4

2. The minimum number of volunteer fire fighters should never be less than 10 per company and should preferably be at least 25, according to Municipal Fire Administration.
3. The fire chief should be held responsible for the training of the firemen and the fire fighting equipment should be taken out at least once a month for practice.
4. There should be only one head of the fire department, appointed and directly responsible to the chief town official. In this way, responsibility can be fixed and a unified command will result.

III. Fire Alarm

There are two basic elements of communication within a modern fire department.

- A. Devices used in reporting fires to the fire department.
1. Municipal Fire Alarm System - alarm boxes are strategically located throughout a given area, ideally within a distance of 300 feet of all commercial and industrial sites, and within 500 feet of all residential sites.
 2. Commercial Exchange Telephone - the alarm is called in from a location near the fire by a private citizen.

The conclusions that can be drawn are that while the box alarm system would be the most desirable, a combination of both the telephone and box alarm systems is more practical from the financial standpoint. A box alarm system is a necessity in the heavy commercial and industrial areas where establishments are closed and telephones unanswered during much of the 24 hour period, and the telephone affords sufficient protection in residential areas and light commercial areas. It has been found that most residential fires were reported by telephone, even when fire alarm boxes were available.

- B. Effective and rapid communications between the operating units of the fire department of which there are two basic types:
1. Radio - A two-way system by which the operator in the fire station radios an alarm to firemen, to fire trucks, or to other communities.
 2. Telephone - This system, commonly used by volunteer fire departments, connects the telephones of all volunteer firemen with the telephone system in the fire station.

Both systems have merit and, in most cases, both systems are used to some extent. All fire vehicles should be equipped with two-way radios and all firemen should have telephones. Thus, both systems should be used in modern fire departments.

IV. Fire Prevention

It is estimated that 75 percent of all fire losses could be prevented if local fire protection codes were adopted by the town and rigidly enforced by the fire department. Fire prevention programs should be established as outlined in the following ways:

1. All local, state, and federal fire prevention laws should be enforced through a frequent and thorough periodical inspection program.
2. Areas with a high fire potential rate would be inspected much more frequently than those having a low fire potential rate.
3. There should be at least one full-time fireman in charge of the fire prevention program.
4. A local fire prevention committee, possibly in association with the local chamber of commerce, should be established to provide for general fire prevention activities, such as sponsoring fire safety contests, preparing check list of procedures for home owners use in preventing fires, and warning of fire hazards through the local newspaper.

V. Building Laws

Without building laws, adequate fire prevention would be virtually impossible. To maintain an efficient fire prevention program, the construction of buildings should be regulated in the following ways:

1. Building laws or codes should be updated at least once every three years in accordance with recommended building codes sponsored by the American Society of Testing Materials and the National Fire Protection Association.
2. There should be a local building inspector responsible for conformance of new construction with applicable building laws before occupancy takes place.
3. The local codes should give the fire prevention enforcing officer summary power to abate a hazard or to secure the correction of an unsafe building.

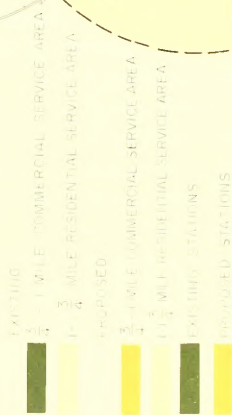
4. Explanation of the codes of the community should be a part of the fire department's training program for fire inspectors, with emphasis on the importance of knowing the reasons behind the law as well as the law itself.

VI. Structural Conditions

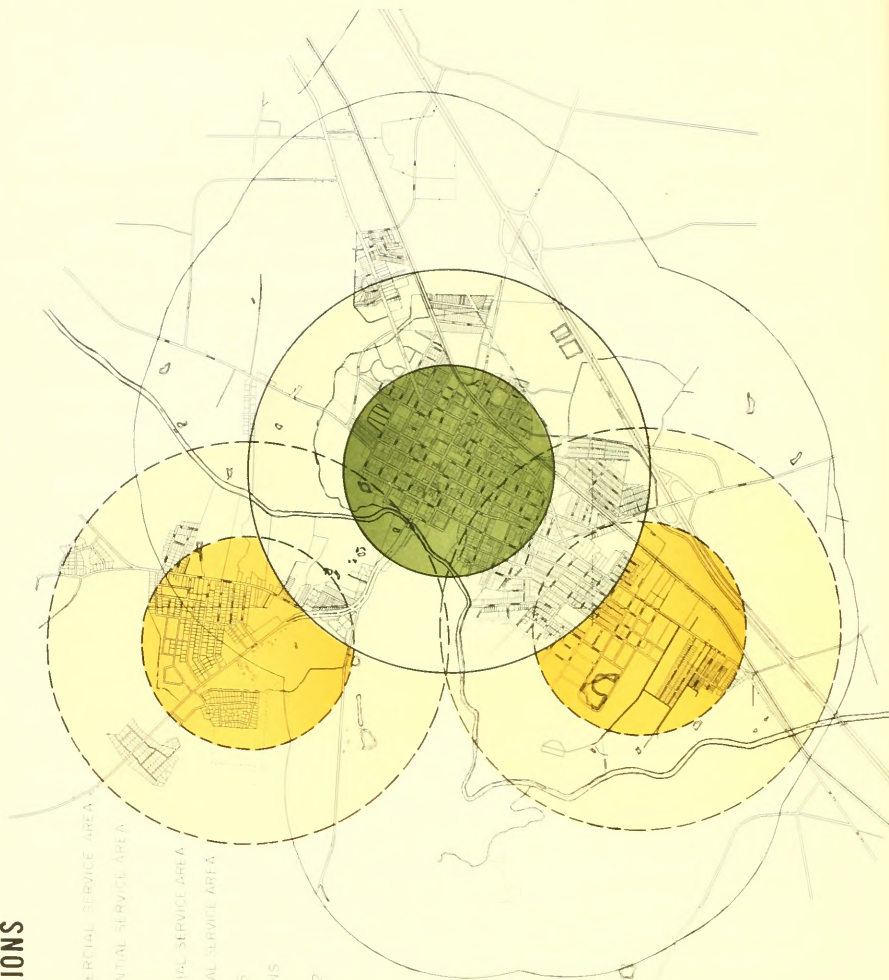
Structural conditions within a community must be regulated in order to reduce fire hazards. Such regulation can be accomplished in the following ways:

1. A program of condemnation and demolition of dilapidated structures should be established and rigidly enforced.
2. A zoning ordinance should be enacted to provide adequate fire breaks between buildings and to prevent narrow and inaccessible streets.
3. When remodeling takes place in all older industrial and commercial structures and when new buildings are constructed the installation of automatic sprinklers should be required.

FIRE STATIONS



MAP NO. 2



RECOMMENDATIONS

Facilities

1. The present fire station facilities are adequate in size but modernization is needed to make the department more efficient. While the station has both front and rear entrances, only the front entrance is used, causing unnecessary backing into the fire station. In addition, the acquisition of a new ladder truck will create a need for more space in the station. Thus, modernization and enlargement is recommended. (See Map No. 2).
2. Annexation and new industrial employment will bring about the need for a new fire station in south Smithfield by 1980. By 1985, the need for an additional fire station in West Smithfield will be acute and should be provided. (See Table No. 3 and Map No. 2).
3. Since water consumption nearly equals treatment capacity the town officials have seen a need for a new three million gallon capacity water treatment plant. When the study for this new plant is initiated, it should include a study of the water distribution system. Recommendations concerning ways and means of increasing water pressures, hydrant distribution needs, needs for replacing water lines of less than 6 inches in diameter, and the spacing of valves throughout the distribution system should be given special attention. The money for these improvements should be incorporated in the special bond issue for construction of the proposed water treatment plant.
4. At the present, a four mile electric power line connects Carolina Power and Light Company's substation in Selma with Smithfield's substation. A break in this power line would hamper water and electric service in Smithfield. It is recommended that another substation be provided to supply power in emergencies.

General Programs

1. Providing fire protection for areas outside of the town limits cost the town residents too much in taxes and in higher insurance rates. Thus, it is recommended that the Smithfield Fire Department cease answering calls outside its corporate limits.
2. It is recommended that Smithfield adopt an updated fire prevention code to be enforced by the fire department staff through periodical inspection.
3. Updated building laws should be adopted by the town to maintain an efficient fire prevention program. These laws should be enforced by the town building inspector and the fire prevention officer.
4. A program of condemnation and demolition of dilapidated structures should be established and rigidly enforced to reduce fire hazards.
5. It is further recommended that the Smithfield Fire Department request recommendations from the North Carolina Fire Rating Bureau for a number 6 rating and then set its goals for attainment. This is very necessary because at the present growth rate vast improvement in fire prevention is needed in order to preserve the status quo.

Personnel

1. By 1970 it is projected that the Smithfield planning area will have a population of 13,785 residing in 2614 dwelling units on 3,384 total acres of land. It is recommended that a full-time fire chief be employed to provide the necessary leadership for the Smithfield Fire Department.
2. Since it is estimated that 75 percent of all fire losses could be prevented if local fire protection codes were adopted and enforced, it is recommended that a full-time man be hired to administer the fire prevention program.
3. In addition to the one full-time man presently employed, two full-time men should be employed to provide around the clock

duty at the fire station, each man working an eight hour shift. This is a minimum necessary by 1970. By 1980, an estimated population of 15,439 will necessitate a new fire station and three additional full-time men to operate on a 24 hour basis. A projected population of 16,364 by 1985 and widely expanding land uses will cause a need for one more fire station and three more full-time men. Thus, a total of 8 new full-time men will be needed to operate the three fire stations. (See Table No. 3)

4. Presently there are 26 volunteer firemen, barely the minimum required for 1 pumper company. Since Smithfield has two pumper companies, an additional 14 volunteer firemen are needed. By 1980, this figure should be doubled to 80 and by 1985, a total of 100 volunteer firemen should be deployed at the three fire stations. (See Table No. 3)
5. It is recommended that a minimum of 20% of the volunteer firemen attend intensive training courses conducted by the state each year and that refresher courses be attended by other firemen as needed. Each man should attend training courses at least every five years.

Equipment

1. To increase fire protection it is recommended that a fire alarm box system be purchased by the town and employed only in the heavy commercial and industrial areas of the town. Such a system should be the most up-to-date available -- the electronic type if possible.
2. The two present pumpers are adequate according to the standards of this report, but by 1980 one additional pumper will be needed to provide adequate fire protection for Smithfield. (See Table No. 3)
3. Since there are 7 buildings three or more stories high in Smithfield, a ladder truck is a vital necessity and it is recommended that one truck be purchased by 1970. (See Table No. 3)

4. Equipment trucks should be increased from one to two by 1980 and to three by 1985 in order to provide one truck for each fire station. (See Table No. 3)

TABLE NO. 3
POTENTIAL GROWTH PROJECTED FOR 1965 - 1985
RELATING TO THE FIRE DEPARTMENT

	<u>1965</u>	<u>1970</u>	<u>% Inc.</u>	<u>1980</u>	<u>% Inc.</u>	<u>1985</u>	<u>% Inc.</u>
Total Area Served (Acres)	1,875	3,384*	80	3,684*	9	3,804*	3
Total Population	6,316	13,785*	118	15,439*	12	16,364*	6
Number of Dwelling Units	1,890	2,614*	38	3,724*	42	3,994*	7
Number of Fire Stations	1	1	0	2	100	3	50
Number of Pumper Companies	2	2	0	3	50	3	0
Number of Ladder Companies	0	1	100	1	0	1	
Number of Full-Time Firemen	1	3	200	6	100	9	50
Number of Volunteer Firemen	26	40	53	80	100	100	25
Number of Pumper Trucks (Primary)	2	2	0	3	50	3	0
Number of Pumper Trucks (Reserve)	1	2	100	1	0	1	0
Number of Equipment Trucks	1	1	0	2	100	3	50

*Annexation of adjacent exterior developed lands assumed.

POLICE PROTECTION

The Smithfield Police Department has the primary responsibility of preventing crime, protecting life and property, and preserving the public peace. This protection is extended to all areas within the corporate limits and into the one mile limit for warrant purposes only.

Other law enforcement officers in the area include the Johnston County Sheriff, an elected constable, and a force of 11 State Patrolmen located between Smithfield and Four Oaks.

The police department's budget for 1966-67 is \$74,935 and is provided out of the general fund.

Existing Facilities

The Smithfield Police Department is located in the basement of the Municipal Building at the corner of Fourth and Johnston Streets. While the space provided for the police department seems to be adequate, some modification to these accommodations is needed. A long counter divides the large single room which has recently been partitioned off. In this room is located the dispatcher and to the rear are two small open cubicles, one occupied by the chief and the other is used as a "booking" room. Neither room provides any privacy. To one side is a large open space used by the department to reface street signs and for servicing the town's parking meters.

All local detention quarters are in the County Courthouse. The town pays room and board for all of its prisoners housed by the County. Records Court is also held in the County Courthouse. In the past, these two working agreements have been very satisfactory for both the county and the town.

Parking spaces for official vehicles is on the street in front of the police department, and on the side and at the rear of the Municipal Building. No off-street parking is provided for employees or the general public.

Personnel

As of July 1, 1966 the police department had a staff of 15 officers and one custodian. Each officer works an eight hour shift, six days a week. Following is the current staff:

- 1 Chief
- 1 Captain
- 2 Sergeants
- 1 Policewoman
- 10 Patrolmen

Training for police personnel is only a "hit and miss" proposition at the present. Four officers have completed a course in basic officer training and three are now attending. There is no incentive offered for completing any training.

Two Clerks of Court serve as dispatchers and perform minor clerical duties for the department. These two Clerks of Court are not, of course, under the direct supervision of the police chief. By combining the two jobs, they are not able to render the police department sufficient time to provide the service the department needs. The problem is often compounded by the fact that they are both former Smithfield Police Chiefs, and this often interferes with the operation of the department.

During the school season, the only four officers on duty are stationed at the school crossings in the area served by the department. Thus the remainder of the community is left unprotected for those time periods when the children are on their way to and from school.

Equipment

The police department operates three 1967 model automobiles which are to be replaced annually. At least one car is patrolling the town at all times, and all three cars are in operation from "dusk to dawn".

The department is the communications center for police, fire, rescue service and sheriff departments.

Below is a list of miscellaneous equipment used by the police department at the present time:

- A. 1 Fingerprint Kit

- B. 1 Polaroid Camera
- C. 1 Tear Gas Gun and Grenades
- D. 5 Sawed-off Shotguns
- E. 1 Speed Clock
- F. 2 Walkie-Talkies

Standards

After a thorough analysis of all available standards that would apply to a community such as Smithfield, it was found necessary to set many of the standards found herein for the police department according to past experience of the department and projected trends observed within the community. In developing these standards it was assumed that the present police department was performing efficiently and was considered adequate for the community.

At the present, Smithfield's Police Department operates three vehicles to patrol 42 miles of streets. It is projected that by 1985, there will be 90 miles of streets, assuming that annexation of exterior developed areas occurs. Using the present police vehicles-street mileage relationship, one vehicle for each 15 miles of streets, it can be assumed that by 1985 Smithfield will need 3 additional police vehicles.

This ratio could also be applied to the present and future population. Based on past experience in Smithfield, it is assumed that one vehicle can adequately serve 2,200 people. Three police vehicles now serve 6,316 people. By 1985, with the addition of 3 vehicles, a total of six, would serve an estimated population of 14,428.

In addition, small towns are generally considered to be adequately protected if:

- A. the police officer-population ratio is at least one officer for each 500 population;
- B. recruits are provided a minimum of 4 weeks training, regular officers a refresher course each year, and all sergeants trained as instructors so that patrolmen will receive some instruction each day;

- C. part-time assistance is provided by non-police personnel for such functions as providing protection at school crossings, mass public functions, and for emergency services;
- D. all areas of the town are patrolled on a frequent basis;
- E. the police station is situated on a major thoroughfare for ease of access and unimpaired movement;
- F. the station is located adjacent to the central business district on a site which affords room for expansion;
- G. off-street parking is available and accessible;
- H. the police chief is appointed by, and directly responsible to, the chief administrator of the town.

RECOMMENDATIONS

Facilities

1. While the space provided for the police department seems to be adequate, some modification is needed to furnish privacy and a more businesslike atmosphere. A room should be provided for the clerical workers. The present "booking" room should be enclosed to afford more privacy and security. An assembly room with locker facilities, where officers could meet and discuss official matters, would create a much smoother operating department. By 1985, the police department should employ a total of two captains and three sergeants. A room should be provided for each captain, and one single room for all three sergeants. A separate room should be provided for the detective division when it is created. Separate locker facilities should be provided for the police-women.
2. A practice firing range should be developed in cooperation with the other county police departments.
3. An identification bureau should be set up by the police department and it should be correlated with other state bureaus.

Personnel

1. At the present, Smithfield has a ratio of one police officer for each 421 population. This present ratio should be maintained. It is projected that by 1970 the Smithfield planning area will have a population of 13,785 and police officers should increase to a total of 22. By 1980, a population of 15,439 is projected and 33 police officers will be needed to maintain a proper ratio. By 1985, a total of 35 officers will be required for a projected population of 16,364. (See Table No. 4)
2. Presently Smithfield employs no detectives. It is recommended that a minimum of one plain clothes detective be hired by 1970 and two by 1980.
3. A merit system of pay raises should be set up to add incentive for each officer to acquire more training. Presently

there is no salary difference between equivalent positions for officers who have completed basic officer training and those who have had no training.

4. The Wayne County Technical Institute in Goldsboro offers a basic police officers training course and it is recommended that the Smithfield police officers be required to take this training at the town's expense. Upon satisfactory completion, a salary increase should be granted. It is further recommended that all sergeants be trained as instructors in order that they may provide daily training for patrolmen.
5. Part-time personnel should be hired to handle school crossings during the school year to allow regular police officers more time to patrol other parts of the town. A minimum of six is needed for the 1967-68 school year and none are employed. By 1985, the minimum required will be ten.
6. It is recommended that the two Clerks of Court be removed or separated from the police department, and two full-time radio operators and dispatchers be hired. Also, one full-time clerical worker should be hired immediately to handle all departmental clerical duties. Both of these jobs will require additional employees by 1985. A minimum of three dispatchers and two clerical workers will be necessary if projected growth is attained.
7. It is recommended that police personnel step up its present bicycle safety program in the schools. Additional programs should be added on pedestrian hazards and other safety topics.

Equipment

1. It is recommended that the town continue its policy of replacing police vehicles on a year to year basis. A minimum of six police cars will be needed to give adequate protection over the 90 miles of streets expected by 1985. One motorcycle should be added to the police department by 1970 and two by 1985.
2. Police patrolling should be stepped up during daylight hours

and it is recommended that at least three police cars be patrolling at all times.

3. A "Black-Light" system (infrared detection system) should be purchased for the police department.
4. The town should purchase a new camera to be used in making mug shots.
5. Ammunition reloading equipment should be purchased to provide inexpensive practice ammunition.

TABLE NO. 4
POTENTIAL GROWTH PROJECTED FOR 1965 - 1985
RELATING TO POLICE DEPARTMENT

	<u>1965</u>	<u>1970</u>	<u>% Inc.</u>	<u>1980</u>	<u>% Inc.</u>	<u>1985</u>	<u>% Inc.</u>
Total Area Served in Acres	1,875	3,384*	80	3,684*	9	3,804*	3
Total Population	6,316	13,785*	118	15,439*	12	16,364*	6
Miles of Street Served	42	79.7*	90	85.6*	7	90*	5
Number of Dwelling Units	1,890	2,614*	38	3,724*	42	3,994*	7
Number of Police Cars	3	5	67	6	20	6	0
Number of Motor- cycles	0	1	100	2	100	2	0
Number of Police Officers							
Chief	1	1	0	1	0	1	0
Captains	1	1	0	2	100	2	0
Sergeants	2	2	0	3	50	3	0
Patrolmen	10	15	50	22	46	24	9
Policewomen	1	2	100	3	50	3	0
Detectives	0	1	100	2	100	2	0
Other Police Employees							
Custodians	1	2	100	2	0	2	0
Clerical Workers	0	1	100	2	100	2	0
Part-Time School Crossing Attend- ants	0	6	100	9	50	10	11

*Annexation of Adjacent Exterior Developed Lands Assumed.

CIVIL DEFENSE DEPARTMENT AND RESCUE SQUAD

In Johnston County, the Civil Defense Department conducts its program from an office based in Selma. The county is divided into ten zones, each supervised by a director. The Civil Defense Department also provides a Rescue Squad service for the county. It is based in Smithfield.

Existing Facilities

The civil defense headquarters for Johnston County is located in a leased building in Selma. An office, a storage room and a classroom is housed in this building.

There is shelter space available for 1,962 people in the county with a protection factor of 40 or better. However, none of these shelters have been licensed and stocked because the various owners of these shelters want to reserve them for their own purposes.

Personnel - Civil Defense

Civil defense in Johnston County is operated by volunteers except for a part-time director who is paid \$100 per month and one full-time secretary. The volunteers include 10 zone directors, 22 chiefs-of-service, and 5 instructors.

In addition, 18 volunteers graduated from 32 weeks of auxiliary police school, 9 volunteers are certified radiological monitors, 21 volunteers are licensed amateur radio operators, 1,492 volunteers are trained in medical self help, and 2 volunteers have completed a management course of basic fundamentals of civil defense directorship in event of an emergency.

All of the above training was given by the volunteer civil defense instructors.

Equipment - Civil Defense

An inventory of major equipment used by the civil defense is as follows:

- 1 - 15 KW light generator,

1 - 200 bed hospital ready to be set up in an emergency.
The only other equipment is that used for training purposes.

Standards

1. Civil defense operations for a county should warrant a full-time civil defense director and training officer.
2. An emergency operating center should be established within the county to house the civil defense staff and the county government in times of an emergency.
3. All possible shelters within the county should be properly marked and stocked for times of emergency.
4. Training should be provided to as many people as possible in survival techniques.
5. Police and fire departments should be coordinated to supplement civil defense operations in emergencies.

Recommendations

1. County government should study the feasibility of hiring a full-time civil defense director and a full time training officer.
2. County government should establish an emergency operating center with a protection factor of 100 or more to house the civil defense staff and the county government in case of a national disaster.
3. Available shelter spaces within the county should be fully utilized. They should be properly marked and stocked for public use in times of emergency.

Personnel - Rescue Squad

There are 26 volunteers on the Johnston County Rescue Squad, one of which is the Johnston County rescue officer. He administers the rescue operations and is directly responsible to the Civil Defense Director. Also, there is one training officer who is responsible for all training of rescue squad members. These members also attend the various training sessions sponsored by the North Carolina Department of Insurance.

Equipment

Major equipment includes two rescue trucks, one station wagon and one boat. All of these vehicles are radio equipped and tied in with the county fire and police communication systems. This equipment is housed in the Smithfield fire station. This equipment was purchased with county and federal funds, but Smithfield and the county provides maintenance and upkeep.

Recommendations

1. Since there has been considerable delay in answering some emergency calls, it is recommended that a committee composed of members of the Johnston County Rescue Squad contact the Goldsboro Rescue Squad. A visit and study session should be scheduled to exchange ideas and experiences.
2. It is recommended that Johnston County provide shelter for rescue equipment to protect it from vandalism and the weather.

STREET SYSTEM

The two major functions of streets are to provide traffic service and land service. While these two functions are basically incompatible, the conflict is not too serious when both traffic and land service demands are low. Since streets are permanent and expensive to build and maintain, they must be designed to perform specific functions in order to minimize traffic and land service conflict.

In performing their functions, the streets in a town normally occupy from 25 to 30 percent of the total developed land. There are three basic types of streets that should provide area wide circulation.

1. Minor streets which function primarily to provide access to abutting property, should be designed to discourage through vehicular traffic. Since traffic volume is light, the construction of these types of streets can be less expensive.
2. Collector streets normally channel traffic from the minor streets into the major thoroughfares and surface construction must be able to handle heavier traffic volumes.
3. Major thoroughfares provide safe and convenient movement throughout the entire developed area, connecting major points within the town to provide easy access to and from these points.

The effective use of these types of streets in proper relationship is needed to provide an effective transportation network in Smithfield. There are two major thoroughfares in Smithfield - U. S. 70 and U. S. 301. U. S. 70 runs through the CBD and carries 10,000 vehicles daily. U. S. 301 runs from north to south on the east side of town and carries approximately 10,000 vehicles daily. U. S. 70 is four lane only through Smithfield and U. S. 301 is a two lane highway. Work is proceeding rapidly on connecting Smithfield and Raleigh with a four lane highway, which will dump the four lanes of traffic into the Smithfield central business district.

THOROUGHFARE PLAN

- LEGEND
- EXISTING MAJOR THOROUGHFARES
 - PROPOSED MAJOR THOROUGHFARES
 - EXISTING MINOR THOROUGHFARES
 - PROPOSED MINOR THOROUGHFARES
 - EXISTING COLLECTOR
 - PROPOSED COLLECTOR

MAP NO. 3



Collector streets, such as Wellons, Brogden, and Buffaloe, function fairly well but the volume of traffic on Third Street, going between North Street and U. S. 301, is too heavy for the design of that artery.

Minor streets function well, but too often they are used as collector or even major thoroughfares. Hancock and Caswell Streets are good examples of this.

Smithfield's street system is basically the gridiron pattern. There are 41.98 miles of streets in the system, of which 28.78 miles or 68.5 percent are paved and 13.2 miles or 31.5 percent are unpaved. Of the total paved streets, 7.16 miles are maintained by the State of North Carolina.

The average street life is 10 years, therefore, each year 10 percent of the town's streets should be resurfaced - approximately four miles each year for Smithfield.

Smithfield's Street Section, a division of the Public Works Department, has a 1966-67 budget of \$59,330 provided from the general fund and Powell Bill funds.

Existing Facilities

The Street Section is maintained and housed by the town garage, where no facilities are provided to protect the equipment from the elements.

Narrow streets in the older sections of Smithfield need to be widened. In addition to being narrow, many of the street curbs are square and turning is very difficult. Inadequate subdivision regulations have caused many layout problems. An example of these may be found in the Woodall Heights Section where off-set street intersections do not connect and "Y" type intersections are formed.

Personnel

The Street Section of the Public Works Department is responsible for maintenance of the town streets and is administered by the Superintendent of Public Works. The staff of the Street Section includes three heavy equipment operators, four

truck drivers, one brick and cement finisher and seven laborers. Each employee works a 45 hour week. No training is provided except on the job training.

Equipment

An inventory of the Street Section's major equipment includes:

- 1 - 1962 tractor and back-hoe digger with front end loader
- 4 - dump trucks (1959, 1960, 1961, 1962)
- 1 - 1957 super A tractor mower
- 1 - 1961 asphalt roller
- 1 - 1960 utility pick-up truck
- 1 - 1956 truck and leaf collecting machine
- 1 - 1967 street sweeper
- 1 - 1967 motor grader

Standards

1. The town should have adequate subdivision regulations to insure that new subdivision street layouts will be coordinated with the town's thoroughfare plan and insure that subdivision streets will be constructed of quality materials.
2. The following minimum rights-of-way should be adopted by the town for new streets and for upgrading substandard streets.

Major Thoroughfares	80 feet
Collector Streets	60 feet
Minor Streets	50 feet
Cul-de-sacs	50 feet
3. Curbing at street corners should have a minimum radius of 15 feet to facilitate turning movements.
4. New streets should be constructed for proper drainage and old streets should be reworked to prevent flooding.
5. Since an average street's life expectancy is 10 years, approximately 10 percent of the town's streets should be resurfaced each year.
6. Ninety percent of a town's streets should be paved and priorities should be set up to attain this goal.

Recommendations

1. A better system of collector streets and major thoroughfares must be developed by the town in keeping with its Thoroughfare Plan, in order to accommodate increased traffic flow expected to be generated by a 1985 population of 16,364. (See Map No. 3)
2. Third Street, from the U. S. 301 intersection to Bridge Street, needs to be widened in order to accommodate existing and future traffic loads. The same is true of Johnston Street, from First to Fourth Streets. Davis Street should be widened to allow ingress and egress of school buses without requiring the street to be one-way during school hours. (See Map No. 4)
3. Priorities should be established for paving or improving existing substandard streets until approximately 90 percent are paved.
4. Resurface 10 percent of the town's streets each year.
5. The linking of Smithfield with Raleigh by a four-lane highway should increase the need of the one-way pair proposed by the Central Business District Study published in 1964. Johnston Street would be one-way east and Bridge Street would be one-way west, thereby re-routing through traffic around the central business district.
6. The street staff and equipment should at least be doubled by 1985.
7. Adequate and modern Subdivision Regulations should be adopted by the town to insure proper street layout.
8. Minimum rights-of-way should be adopted by the town for new streets and for upgrading existing substandard streets.
9. Curbing at street corners should have a minimum radius of 15 feet. Existing street corners which do not meet this standard should be recurbed.
10. The intersection at U. S. 301 and Third Street is an example of a dangerous intersection. Accident records should be studied to determine other problem intersections and corrective measures should be undertaken. (See Map No. 3)

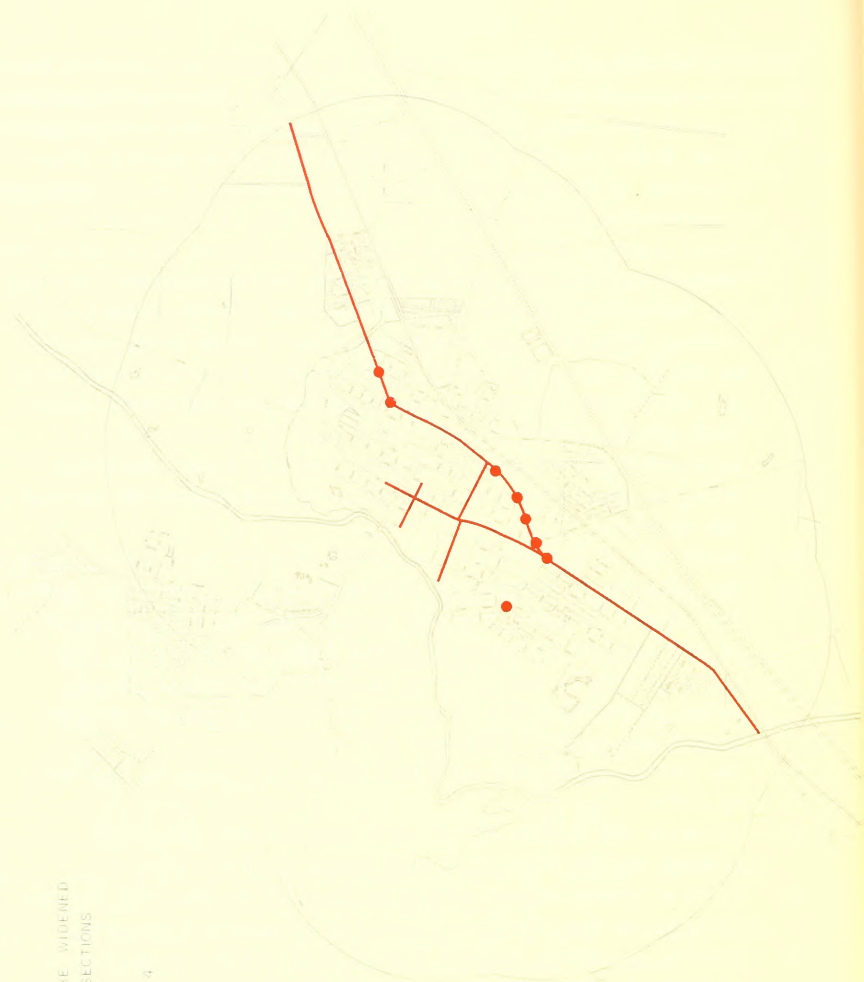
MAJOR STREET PROBLEMS

LEGEND

— STREET SHOULD BE WIDENED

• DANGEROUS INTERSECTIONS

MAP NO. 4



PUBLIC PARKING

In 1964, a Central Business District Study was completed by the Division of Community Planning for Smithfield. In this report it was pointed out that parking provided for employees was adequate but customer parking was deficient. Only 592 parking spaces were provided for customers. Of that total, 179 spaces were provided by the town.

Since that time, 59 parking spaces have been added by the town in the form of on-the-street metered parking spaces. The new Johnston County Library, however, has been located on a lot which formerly provided approximately 30 off-street parking spaces. Consequently, only 29 net spaces have been added for a total of 621 customer parking spaces in the core area.

The Central Business District Study pointed out that a retail trade area of 12,000 population could be expected by 1980, and 218,000 square feet of retail sales floor area would be in Smithfield's CBD. Under these conditions, it was estimated that 1300 parking spaces would be required, or approximately 12 parking spaces for each 100 population.

Annexation and new industrial employment opportunities will increase Smithfield's corporate limits population to 15,439 by 1980. Therefore, the 1964 Central Business District Study 1980 projections will be realized by 1970.

By 1980, it is now projected that there will be 15,439 population in the Smithfield planning area. Using the 12 to 100 ratio, as above, 1,848 parking spaces will be needed. By 1985, 1,956 customer parking spaces will be needed to accommodate 16,364 population in the planning area. Therefore, an additional 1,335 parking spaces will be required between 1965 and 1985.

Recommendations

1. It is recommended that town officials and merchants pool their resources and energies together to seek a solution to the parking problem. As pointed out in the Central

Business District Study, if downtown parking is to be provided by the town, the customers will have to bear most of the cost. Since local businessmen reap most of the benefits, they should bear most of the parking costs for their customers. A possible solution would be for local businessmen to purchase or lease property for parking and the town maintain and supervise the lot. The City of Roanoke Rapids, North Carolina has an example of a successful parking arrangement as suggested above.

ELECTRICAL SYSTEM

The wide use of electricity has been spurred by the multitude of labor saving devices available. Add this to the high standard of living attained in the country, and electricity has become a vital necessity.

The electrical distribution system in Smithfield is owned and operated by the town. Power is purchased from Carolina Power and Light Company at wholesale rates and resold to the town's customers.

Existing Facilities

The old Town Hall, located on Fourth Street, serves as storage for equipment and supplies.

There are roughly 3300 electrical customers in Smithfield, of which approximately 80 percent are residential and 20 percent are commercial. In 1965, the town purchased 32,011,200 KW of electricity from Carolina Power and Light Company. Of this total, 13,001,255 KW was used by commercial consumers, and 15,500,000 KW was used by residential consumers. The town used 3,509,945 KW for street lighting and other town functions, or was lost in transmission.

Smithfield's substation is located adjacent to the water treatment plant near the Neuse River. From here power is relayed through the distribution system, which consists of lines of two different voltages. Approximately one-half of the town has lines with a 4,160 voltage rating and one-half with 12,470 voltage rating. In 1965, the peak load delivered was 7,171 KW, with a possible peak load of 7,500 KW. The peak load of 5,000 KW was changed in 1962 to 7,500 KW.

Electrical service is extended to all areas within the town limits and there are 15 miles of line outside the town limits which serves 388 customers. There is no hard and fast policy of line extension inside or outside of the town. Carolina Power and Light Company allows Smithfield to extend service into some rural areas where they feel that extension is too costly. Generally,

Smithfield will extend service anywhere within the town, and in rural areas only where future development seems probable.

Power lines are generally placed on the street, although recently some new lines have been installed along rear lot lines. No action has been taken to promote underground wiring.

Personnel

The Utility Line Section of the Public Works Department has the responsibility of the electrical distribution system in Smithfield. The staff consists of one foreman, three linemen, four laborers, and one meter and equipment tester. There are four vacancies which need to be filled to bring the department up to top efficiency - two linemen and two laborers. They also have the responsibility of maintenance of the town street lighting system. Employee training is on the job, with no prior experience necessary.

Equipment

An inventory of major equipment includes two line trucks, one ladder truck, two utility pick-up trucks, and one car, used by the foreman. With the purchase of a new line truck and a new hole-digging machine this year, the equipment is adequate.

Standards

1. In order to provide the best possible electrical service, an electrical engineer or a competent electrical consultant should be retained by the town.
2. Personnel and equipment should be adequate to serve and maintain the power system in such a manner that failure would interrupt service only for short periods of time.
3. The entire electrical system should be able to handle peak loads with a fairly wide margin for future expansion.
4. Major distribution lines should form loops to minimize variances in voltage flow to promote efficient operation of electrically powered machines and appliances.

5. The electrical system should be laid out in a manner to provide for economic future expansion and up-grading.

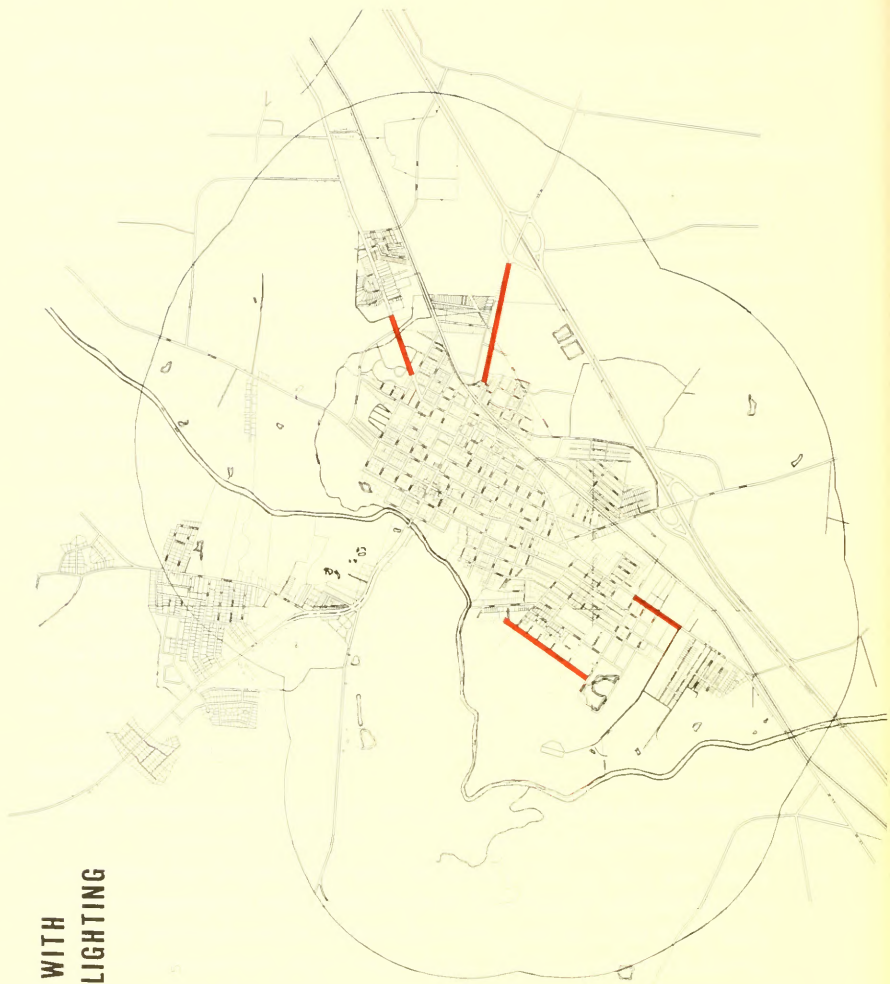
Recommendations

1. At the present there are approximately 3300 electrical customers in Smithfield. Proposed annexation would add 706 residential users and 46 commercial users for a total of 4,052 electrical customers. In addition, 1,350 new industrial jobs will be available in Smithfield by 1970. Assuming that these jobs will be filled by people who will move to Smithfield, 1,350 new households will swell the numbers of electrical users to 5,402. In addition, these 1,350 new industrial jobs will create 40 new retail establishments, according to Nations Magazine statistics, for a total of 5,442 electrical users by 1970. It is recommended that the Smithfield Public Utilities Department increase its equipment and personnel to accommodate this 65 percent increase.

Two linemen and two laborers are already needed to fill vacant positions and by 1970 five additional men should be employed. In addition, one line truck should be purchased.
2. It is recommended that the town hire a full-time electrical engineer or retain professional consultants in order that the best possible electrical service be afforded the people of Smithfield.
3. It is recommended that the 4,160 voltage lines be replaced with 12,470 voltage lines.
4. Since the electrical system is near the peak load possible, an engineering study should be undertaken to determine when peak load will be surpassed and the most economical method of raising the possible peak load. This is imperative if projected growth materializes.
5. The town should adopt a policy on power line extensions to prevent unsound and uneconomical extensions.
6. A study to determine the feasibility of installing all new wiring underground should be initiated and put into effect where practical.

**STREETS WITH
INADEQUATE LIGHTING**

MAP NO. 5



STREET LIGHTING

Town street lighting has undergone vast changes in recent years and new types of luminaires have replaced incandescent lamps where high intensity lighting is desired. Even though street lighting produces no revenue, adequate street lighting reduces crime and driving hazards. Therefore, the distribution of adequate street lighting becomes a modern necessity.

Existing Facilities

Smithfield's street lighting system is owned by the town. There are four types of street lights presently in use. There are 155 multiple incandescent 300 watt lights in use, mainly in the newer, low density residential areas. There are 200 series incandescent lights rated at 2500 lumens, used mainly in the high density older residential areas. There are 20 mercury-vapor lights rated at 6,000 lumens located generally at dangerous intersections, at Smithfield High School and on the fringes of the CBD. There are 43 mercury-vapor lights rated at 20,000 lumens, located in the CBD and at one dangerous intersection on Highway 301.

The street lighting system is operated and maintained by the Utility Line Section of the Public Utilities Department. There is no set policy on when and where the installation of new street lights are to be placed in the future. Generally, street lights are placed at all street intersections, with no regard to distances between lights.

Standards

1. Street lights should be installed on all streets within the town limits at intervals of no more than 400' in the business district and along major thoroughfares, and at intervals of no more than 600' or at each street intersection.
2. The following rated lights should be placed in each of the following three areas:

- A. 20,000 lumen lights should be used in the Central Business District;
- B. 6,000 lumen lights should be used along the major thoroughfares;
- C. 2,500 lumen lights should be used in the residential areas.

Recommendations

- 1. A priority should be set up to give special consideration for the location of new street lights to hazardous areas such as dangerous railroad crossings, dangerous intersections, and high crime rate areas.
- 2. A few areas of the town are without any type of street lighting and priority should be given to locate new lights in the following areas:
 - A. Highway 301 North in the hospital and Burlington Park area;
 - B. Highway 70 east of the railroad to the town limits;
 - C. Third Street where Wilson, Stevens, and Holding Streets intersect;
 - D. Chestnut Drive area.(See Map No. 5)
- 3. Plans should be drawn up for a street lighting system for the proposed areas of annexation presently under study.
- 4. Mercury-vapor lights with a rating of 20,000 lumens should be located along Market Street from Second Street to Highway 301 at intervals of no more than 400'.
- 5. A policy should be adopted by the town with regard to the location of future street lights using the guide of intervals of no more than 400' between street lights in the central business district and along major thoroughfares and of 600' intervals in residential sections of the town.

WATER SYSTEM

The need for water has caused some towns to bring water from hundreds of miles away in order to supply minimum needs for a safe and clean water supply.

There are two primary sources of water - ground water and surface water. Smithfield makes use of the latter, drawn from the Neuse River. The greatest advantage of using this surface water supply is that the quantity of raw water is almost unlimited. The principal drawback is that surface water requires more extensive treatment to make it potable.

Existing Facilities

The water treatment plan, which was expanded in 1954, is located at 300 N. First Street. This location is about 300 feet from the point on the Neuse River where the water pump is situated. From here the raw water is pumped into the treatment plant where the processes of coagulation, sedimentation, filtration, and chlorination takes place. Fluoride is also added to the water to help prevent tooth decay. This treated water is then pumped into the distribution system.

The laboratory equipment used in the water treatment process is the minimum required by the N. C. State Board of Health. In addition, the State Board of Health has requested that the town purchase some device to measure the amount of radiation in the water.

Water service extends to all areas within the corporate limits. The Pecan Grove section, which includes the new Sylvania Plant and a small section south of the town limits off U. S. 301 are also served. Smithfield also has a special agreement to serve the West Smithfield Sanitary District with water. The West Smithfield Sanitary District secured a federal grant of \$350,000 to construct a water distribution system and the town of Smithfield supplies this water at wholesale rates of \$.25 per 1000 gallons. (See Map No. 6)

WATER SYSTEM

LEGEND

LESS THAN 6" LINES

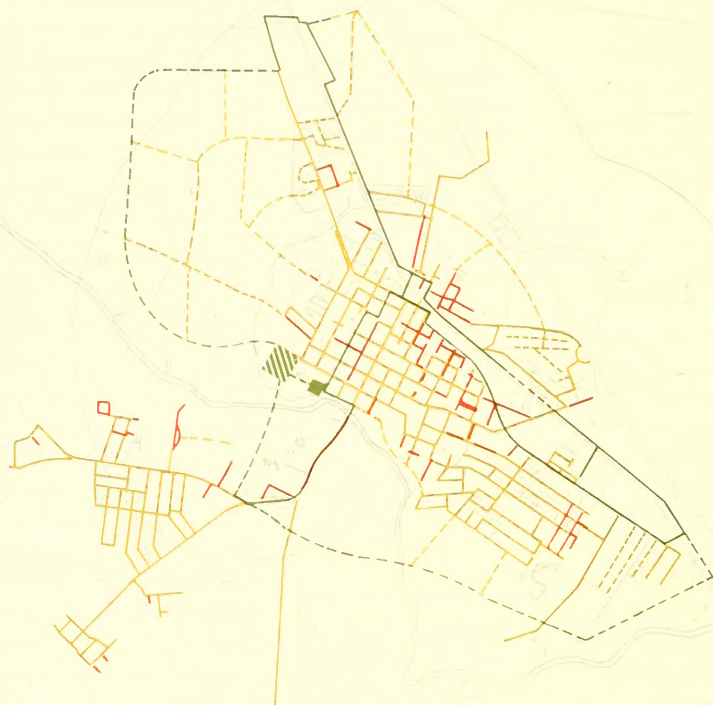
6" - 8" LINES

10" - 16" LINES

EXISTING TREATMENT PLANT

PROPOSED TREATMENT PLANT

MAP NO. 5



The water treatment plant presently has a total capacity of one million gallons per day, from which 2,000 residential and small commercial water users are served. There are 15 large commercial water users, such as West Smithfield Sanitary District and the large industries, such as Sylvania and Fieldcrest. The highest peak demand has been 1,250,000 gallons in a 24 hour period. Average demand is around 900,000 gallons daily. Therefore, the present plant capacity of one million gallons per day is barely sufficient and has been taxed to its maximum capacity to meet peak demands.

Smithfield employed William C. Olsen and Associates in 1960 to do a study on providing an additional one million gallons of treated water. The study showed that a savings of \$50,000 could be realized if the present water treatment plant were enlarged to treat two million gallons rather than build a new plant. This expansion would cost \$550,000 and require no new personnel.

Since that time, town officials have seen the need for a larger water treatment plant of three million gallon capacity which could economically be expanded to seven million gallons per day. It is proposed that such a facility be built between Smithfield and Selma. Eventually it could also supply Selma's water needs. The cost of such a facility would be slightly in excess of \$1 million and the bond election for this facility was set tentatively for February, 1967.

It is estimated that if this water treatment plant bond issue is passed by the voters of Smithfield, construction would take 400 days. With the present treatment plant taxed to its maximum in the summer months, water supply in Smithfield could become acute by the summer of 1967.

Areas served outside of the corporate limits are charged an additional 50 percent of their water bill for the privilege of using the town's water. In order for a new customer to be served by the town, he is required to pay all costs of water line extension and tap on in accordance with town policy.

A good water distribution system should have as its two main goals the providing of an adequate quantity of water at an adequate water pressure.

The overall water pressures as measured by the N. C. Fire Insurance Rating Bureau are considered to be fair, but there are some areas that do not have adequate water for fire fighting. Much of the deficient water pressure is due to the use of two and four inch water lines. Smithfield's average water pressure throughout the town is 60 pounds per square inch. This is considered adequate for fire fighting generally. But in high value districts, 75 pounds per square inch should be provided for fire fighting purposes.

The treated water is distributed through a system of lines and mains which vary in size from 2 inches to 16 inches. An inventory of the lines includes the following footages:

Less than 6" line -	29,650 feet
6" line -	127,300 feet
8" line -	19,500 feet
10" line -	11,700 feet
12" line -	11,500 feet
16" line -	10,400 feet

These lines total 37.9 miles of water mains, and overall are considered to be adequate. Some problems are created by the use of 29,650 feet of lines that are less than 6" in diameter. Anything under 6 inches is considered to be inadequate for fire fighting purposes. Included in this 29,650 feet of lines is a great number of feet of 2 inch lines. This is generally in the older sections of the town and should be replaced. No new lines under 6 inches in diameter should be laid. Dead end lines do exist but the small number of them is of little consequence.

In addition to the 37.9 miles of water lines, the town has two elevated storage tanks which serve two main purposes. One is to keep water pressures stable and the second is to provide a reserve water supply at times of peak demand. These storage tanks have capacities of 100,000 and 300,000 gallons. (See Map No. 6)

The West Smithfield Sanitary District owns the following water lines:

Less than 6" line -	6,100 feet
6" line -	34,900 feet
8" line -	23,900 feet
12" line -	4,700 feet

The main problems encountered with this distribution system is that 9 percent of the lines are less than 6" in diameter. This is particularly unjustified by the fact that these lines were put into use in the last three or four years. The federal grant should have stipulated that no lines of less than 6" be laid. Also of importance is the fact that there are two 8" lines that dead end. They should be looped to provide a better water flow and circulation. These two lines are located on N. C. 210, and on U. S. 70 to the Westview Subdivision.

Personnel - Water Treatment Plant

Smithfield's water treatment plant is under the direction of the Water Plant Superintendent. The only other staff members include two operators. Each one of these operators works an 8 hour shift 7 days a week. When someone needs a day off or takes a vacation, one of the other two operators must work a double shift and receive overtime pay.

The Superintendent has a "C" certificate from the State Board of Health. The other two operators have no formal training except on-the-job training supervised by the Superintendent.

Personnel - Water Distribution

The maintenance of water mains is handled by the Utility Line Section of the Public Utilities Department which employs three men to handle both water and sewer lines. These three men each work 46½ hours per week.

Standards

1. Water treatment capacity should always be a minimum of 25 percent more than the present consumption in order to allow time to study and to expand facilities for future requirements. The average per capita consumption in the U. S. today is 140 gallons per day. Since industry is normally a large water consumer and since Smithfield is in the midst of an industrial boom, it would not be unreasonable for the town to maintain this standard as a minimum. By and

large, the availability of large quantities of water will enhance the chances of more and more industrial relocation there.

2. Water treatment facilities should be supplied with an auxiliary power source other than electricity to reduce the possibility of a disrupted supply of water.
3. The distribution system should be engineered in a manner that will result in as few dead end lines as possible. The minimum size of line should be 6 inches in diameter.
4. Storage facilities for the treated water supply should have enough capacity to provide stable water pressures throughout the system, to provide sufficient water at periods of peak demand, and to provide an emergency supply for fire fighting purposes. Thus, it would seem reasonable that enough water should be stored to meet demand for a 24 hour period.
5. Adequate water pressures should be maintained to meet emergencies for fire protection. According to the American Insurance Association (formerly the National Bureau of Fire Underwriters) 60 pounds per square inch would be sufficient for fire fighting purposes in a town with less than 10 buildings which exceed three stories.
6. Laboratory equipment used by the water plant in the treatment process should be sufficient to render the raw water completely safe for consumption and pleasing to the taste. This equipment should not be deemed adequate because it is the minimum required by the N. C. Board of Health.
7. Personnel of both the water treatment plant and of the water distribution department would be adequately trained to operate the system efficiently. The water treatment plant should always have a minimum of two men on duty at all times in order to provide for a safe and dependable water supply.

Recommendations

1. At the present Smithfield water users consume approximately one million gallons per day on a yearly average. This is 112 gallons per day per capita. If this is projected into the future, by 1970 a projected population of 13,785 will consume 1,543,920 gallons per day. By 1980, a population of 15,439 will consume 1,729,168 gallons per day, and by 1985, 16,364 persons will consume 1,832,768 gallons per day, on the average. This does not account for the increased water consumption required by the droughts of the hot summer months when water consumption might rise as much as 25 percent.

The 112 gallons per day per capita is far below the national average of 140 gallons per day. At this latter figure, by 1985 a projected population of 16,364 will consume 2,290,960 gallons per day on the average. Therefore, it is recommended that 140 gallons per day per capita be the minimum goal for treated water and it is further recommended that Smithfield begin construction as soon as possible on the proposed three million gallon water treatment plant.

In addition to the proposed treatment plant, Map number 7 shows the areas of expected growth with an overlay of proposed water lines necessary to accommodate this development. The town and the growth areas designated by the Land Development Plan are looped by a trunk line which should be adequate through 1985. A looped trunk line is an asset to the town because it provides flow from two directions and it stabilizes water pressures.

2. It is recommended that the capacity of the water treatment plant should always be a minimum of 25 percent more than present consumption in order to allow time for study and expansion of facilities for future requirements.

LAND USE PLAN

LEGEND

- COMMERCIAL-CENTRAL BUSINESS
- COMMERCIAL-LOCAL BUSINESS
- OPEN LAND RECREATION, LAND RESERVE
- INDUSTRIAL-MANUFACTURING, WHOLESALE
- RESIDENTIAL



3. It is recommended that the power supply for the new treatment plant be from two sources to reduce the possibility of a failure in the water supply.
4. It is recommended that new water lines be a minimum of six inches in diameter, and that a supply be installed to replace old water lines of less than six inches in diameter, especially where fire hydrants are located.
5. The study for the new water treatment facilities should include the needs of additional water storage facilities to provide adequate water reserves and reserve water for fire fighting purposes.
6. Laboratory equipment at the new plant should include a device for measuring the hardness of the water. Special treatment for softening should be given to the water, especially in the fall of the year when the water is of hard water, should be used.
7. Smithfield should consider additional operators for the water treatment plant. These additional operators provide personnel for the staff and also provide a means to collect samples of water on their time off.



Fig. 1. A



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WATER SYSTEM

LEGEND

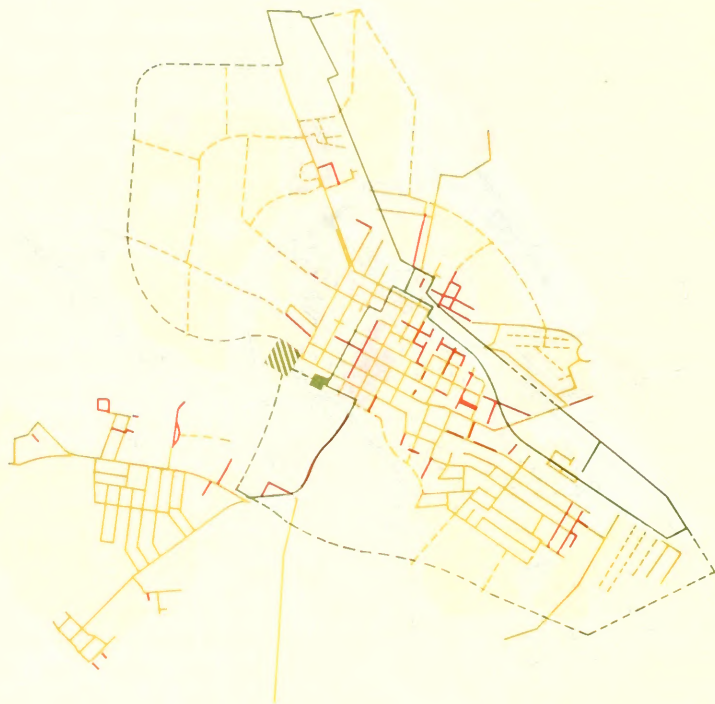
LESS THAN 6" LINES

6" 8" LINES

10" 12" 16" LINES

EXISTING TREATMENT PLANT

PROPOSED TREATMENT PLANT



MAP NO. 7

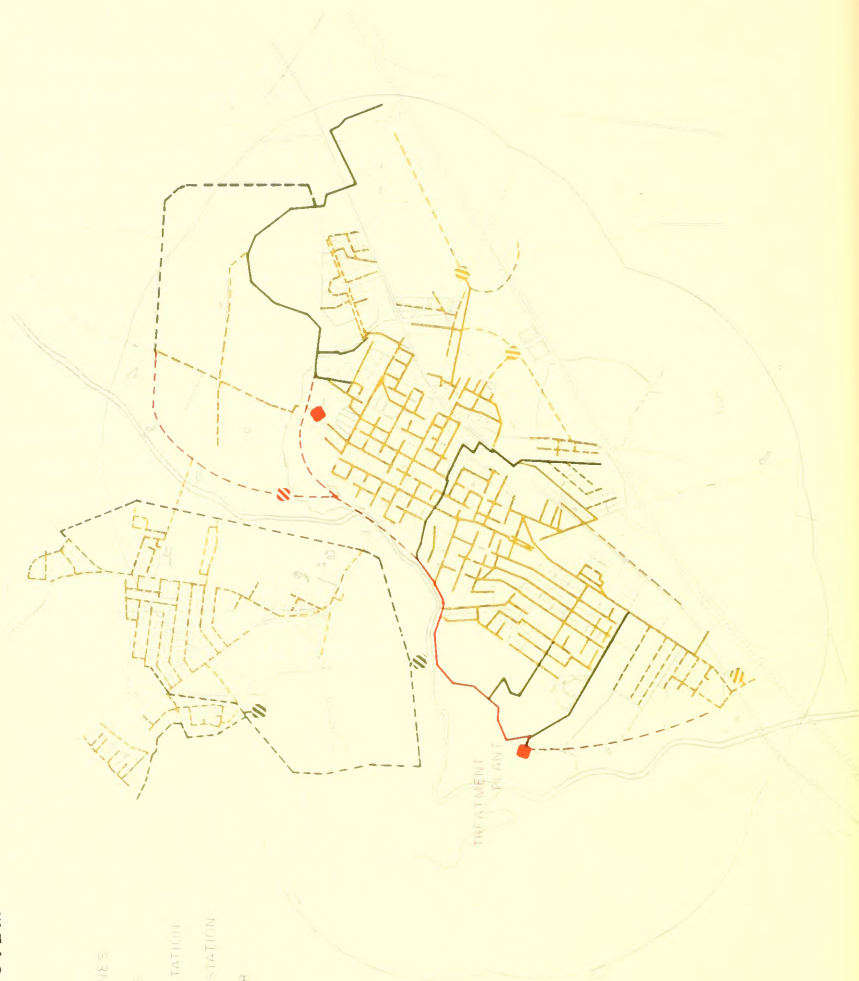
3. It is recommended that the power supply for the new treatment plant be from two sources to reduce the possibility of a failure in the water supply.
4. It is recommended that new water lines be a minimum of six inches in diameter and that a program be started to replace old water lines of less than six inches in diameter, especially where fire hydrants are located.
5. The study for the new water treatment facilities should include the needs of additional water storage facilities to provide adequate water pressures and reserve water for fire fighting purposes.
6. Laboratory equipment for the new plant should include a device for measuring radiation in the water. Special treatment for removing manganese from the water, especially in the fall of the year when the water is often black, should be used.
7. Smithfield should hire four additional operators for the water treatment plant. These additional men would provide personnel for double shift and also provide one man to relieve the other operators on their time off.

SEWER SYSTEM

LEGEND

- 4" 6" 8" LINES
- 10" 12" 15" 18" LINES
- 21" 24" 30" LINES
- EXISTING LIFT STATION
- PROPOSED LIFT STATION

MAP NO. 8



SANITARY SEWERAGE SYSTEM

The collection, treatment, and disposal of a town's liquid waste is a service which, by and large, most people take for granted. Many people purchase homes or home sites and have no idea how sewage disposal will be handled. Urban development has brought about the need for a publicly operated sewerage disposal system in order that the safety, morals, health and general welfare of the town be protected.

Existing Facilities

This public service is provided by the Town of Smithfield. The collection of the sewage is entirely by gravity flow, except for one lift station north of Buffalo Street. The collection system includes the following inventory of sewer mains:

4" mains -	500 feet
6" mains -	18,500 feet
8" mains -	114,850 feet
10" mains -	12,150 feet
12" mains -	13,350 feet
15" mains -	12,550 feet
21" mains -	1,100 feet
24" mains -	1,600 feet
30" mains -	5,850 feet

The service area of the sewerage system includes all areas within the corporate limits, plus the Sylvania and Fieldcrest plants (see Map number 8). There are still 50 or 60 residences which use the septic tank method of sewage disposal within the town. The town does not require these septic tank users to connect to the town system.

Problems which the town has encountered with its sewage collection system are few. One is the infiltration of storm water caused by pipe leakage during prolonged periods of heavy rainfall and by old storm sewers connecting into the sanitary sewer mains. The end result is too much material to be processed at the treatment plant. This necessitates raw sewage to be

occasionally dumped into the river. There is also the problem of blockage of sewer mains in areas where 4 inch and 6 inch mains were installed years ago in the older sections of the town.

The raw sewage flows to the sewage treatment plant, which is located on the southwestern side of town near the Neuse River. This treatment facility was completed less than four years ago and has a total capacity to treat 1.5 million gallons of sewage per day. Presently, the plant is treating a little in excess of 0.5 million gallons per day. (See Map number 8).

Once the raw sewage reaches the plant, two pumps lift the sewage into the plant where the process known as the "activated sludge process" removes 95 percent of the BOD (Biochemical Oxygen Demand). Primary treatment includes filtering and sedimentation and secondary treatment is accomplished through biological action and secondary sedimentation. The effluent is chlorinated and discharged into the Neuse River. The settled solids or sludge is dried and used for fertilizer or fill material.

Town residents are charged 30 percent of their water bill or \$1.25 minimum for sewer service. Customers served outside of the corporate limits are charged 50 percent of their water bill for sewerage service.

Personnel

The sewage treatment plant is under the direction of the Sewer Plant Supervisor. Actual operation of the plant is carried on by the supervisor and two other operators. Each of these operators has been certified by the N. C. State Board of Health. Each operator works an 8 hour shift, 7 days a week.

Service and maintenance of the sewage collection system is under the direction of the utility line foreman. This department employs three men who are used on both water and sewer mains.

Standards

1. In order to insure that Smithfield will always have adequate

sewage treatment facilities, the maximum treatment capacity of the plant should always be 25 percent more than the normal demand for treatment. When 75 percent of treatment capacity is reached, a study should be started in order to determine the most economical method and the most desirable time to expand treatment plant capacity.

2. No septic tanks should be allowed within the corporate limits of the town.
3. A sewerage system should not allow storm runoff water to infiltrate the sanitary sewer lines.
4. No sewer mains less than 8" in diameter should be laid by the town or by any builder.

Recommendations

1. At the present, Smithfield's sewage treatment plant is handling approximately 85 gallons of sewage per day per capita for a population of 6,316. By 1970, 1,171,725 gallons would be treated for a population of 13,785 if the per capita use of 85 gallons is maintained. By 1980, it is projected that Smithfield will have a population of 15,439 which should produce sewage at the rate of 1,312,315 gallons per day, and 1,390,940 per day by 1985 for a population of 16,364. This is based on the assumption that these population projections are accurate and the 85 gallons per capita per day will remain stable.

However, increased industrialization of the area will increase the amount of waste that will need to be disposed of. Since the national per capita average of waste is 100 gallons per day, it is assumed that Smithfield's per capita use will also rise. Therefore, a more realistic figure of 100 gallons per capita per day should be assumed. Under these conditions, a projected population of 16,364 by 1985 will produce 1,636,400 of sewage per day. Since this is the capacity of the treatment plant, a study to expand this facility should be initiated by 1980.

LAND USE PLAN

LEGEND

COMMERCIAL-CENTRAL BUSINESS

COMMERCIAL-LOCAL BUSINESS

OPEN LAND RECREATION, LAND RESERVE

INDUSTRIAL-MANUFACTURING, WHOLESALE

RESIDENTIAL



The Land Development Plan, Smith and Jones, 1965, published in 1965, designated a town and village boundary and corporate limits for the urban area. The plan also provided a street designated (R-1) and a residential street (R-2) and between Interstate 5 and the town and village boundary. The plan also provided a street designated (R-1) and a residential street (R-2) and between Interstate 5 and the town and village boundary.

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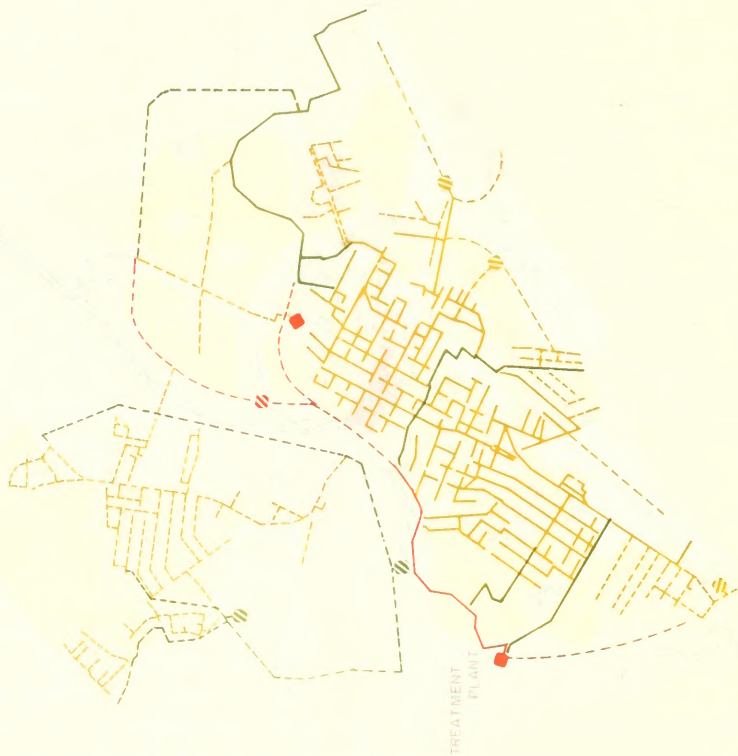


SEWER SYSTEM

LEGEND

- 4" 6" 8" LINES
- 10" 12" 50' 18" LINES
- 21" 24" 30" LINES
- EXISTING LIFT STATION
- PROPOSED LIFT STATION

MAP NO. 5



The Land Development Plan, Smithfield, North Carolina, published in 1965, designated a broad area north of the corporate limits for future urban development. Other growth areas designated included areas south and west to the Neuse River and between Interstate 95 and the railroad. Map number 9 shows these proposed areas with an overlay of existing and proposed sewer lines necessary to accommodate this development.

Sewer lines for the area known as West Smithfield have been proposed and a lift station would be required to lift sewage across the Neuse River. These new lines would be 8 inches in diameter, except for the trunk line which would be 12 or 15 inches.

The areas north of the corporate limits could easily be served by the addition of an outfall line running parallel with the Neuse River and tying in with the trunk line serving Sylvania. A lift station would also be necessary near the river.

Since the areas between Interstate 95 and the railroad are low, a lift station would be required when development occurs.

2. It is recommended that the town pass an ordinance outlawing the use of septic tanks within the corporate limits, except in cases where expense of sewer service is deemed too great to justify it.
3. The infiltration of storm runoff water should be eliminated to prevent overloading of sewage treatment plant and to avoid the subsequent dumping of raw sewage into the Neuse River. The probable cause of this infiltration is that old storm sewer lines connect into the sanitary sewer lines, and also, some leakage occurs through seepage of water into cracks in the sanitary sewer lines and through man-hole covers. The use of dyes have been successful in determining where infiltration occurs and should be used to help alleviate Smithfield's problem.

4. The town should adopt a policy to the effect that no new sewer lines laid within the sanitary sewer collection system will be less diameter than 8 inches.
5. It is recommended that one additional man be employed by the sewage treatment plant to relieve the 8 hour, 7 days a week shift presently worked by the three plant operators.
6. It is recommended that the town purchase a power driven sewer line cleaning apparatus.
7. Some thought should be given to the idea of the town having an accurate and complete topographic map made of the entire planning area. Such a map would aid the town in the following ways:
 - A. Aid the town in studying drainage and sewerage problems.
 - B. Aid land developers in laying out subdivisions.

STORM SEWER SYSTEM

As urbanization occurs, problems with storm water runoff increase. Natural vegetation is destroyed by buildings and pavement, and natural drainage is prohibited from functioning properly. When this occurs a storm sewer system must be designed to cope with storm water runoff.

The storm drainage system in Smithfield is maintained by the Department of Public Works. No personnel or equipment is specifically assigned the task of maintaining the system. Improvements made and maintenance performed are done on the basis of need.

Smithfield, located adjacent to a river, is blessed with several natural drainage channels. Two channels transverse the town from east to west and one, Buffalo Creek, is on the edge of the town. All of these channels remain essentially unimproved.

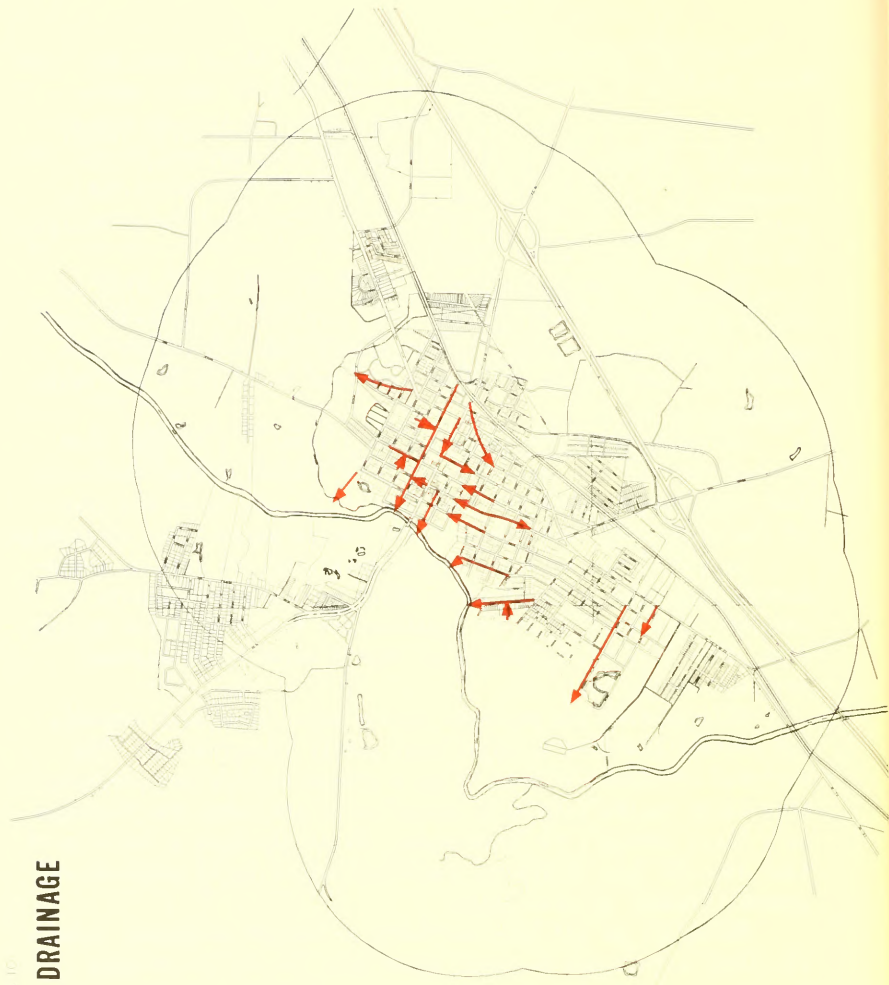
In addition, there are approximately 26,000 feet of underground pipe laid to drain areas which are otherwise poorly drained. The size of these pipes ranges from six inches to six feet, depending on the amount of runoff water to be drained (see Map number 10).

This natural and man-made system works very well overall, but several problems do exist that should be corrected. The railroad underpass at U.S. 70 is a menace to life and property. Four catch basins have been installed in the area, but drainage in a heavy rainfall is inadequate. Water has been as much as 10 feet deep in this underpass, causing traffic to be rerouted to prevent damage, or even death.

Moreover, as the town continues to expand southward towards the Neuse River, new drainage pipes must be laid to prevent flooding of these new areas.

The natural drainage channels occasionally overflow due to trash build-up, creating breeding places for mosquitoes, and cause undue amounts of water to seep into the sanitary sewage system. Several bridges over these natural channels are very narrow and the pipe under the bridges are too small to accommodate the runoff in heavy downpours.

MAP NO. 10
STORM SEWER DRAINAGE



Standards

1. A town's storm drainage system should have the capability of keeping all areas of the town well drained, even in the heaviest annual rainfall. The system should be designed to accommodate development for 25 years.
2. If natural drainage channels form the basis of the drainage system, these channels should be inspected annually for trash build-up, which may cause them to overflow. Every five years these ditches should be completely rechanneled or more often if needed.
3. If natural drainage channels continue to overflow from heavy rainfall, a program of widening and stabilizing these channels should be initiated.
4. Each new subdivision should be required to install proper storm drainage facilities.

Recommendations

1. It is recommended that Smithfield initiate a study of the adequacy of its present storm sewer system and the feasibility of widening and piping of the town's natural drainage channels. Special attention should be given to the railroad underpass on U.S. 70.
2. Narrow bridges which cross these channels should be widened and larger pipe laid to accommodate more runoff water.
3. A program of inspection should be begun in order to keep the natural channels open. This inspection should be on a regular and continuing basis and complete cleaning should be done at least every five years.
4. Subdivision regulations should be adopted and rigidly enforced by the town to insure that developers install proper drainage facilities in new subdivisions.

REFUSE COLLECTION AND DISPOSAL

The collection and disposal of refuse is a process which must be carried out in such a manner to protect the public health of the community and to provide a means of keeping the community attractive to its residents and to the outside world. Such a service can be contracted to a private concern, but a town operated collection and disposal service gives the most satisfactory results, and is normally the most economical.

Facilities and Services

Collection service is provided to all areas within the corporate limits. The town is divided into 3 collection areas, each being served by one garbage collection truck and crew. An open body truck covers the entire town collecting trash. In residential areas, collection of garbage is made twice weekly from the rear of the homes, and trash is collected weekly from the street. Both trash and garbage are collected daily from businesses, industries, and institutions.

The Town of Smithfield has an ordinance that requires garbage to be placed in covered metal or plastic containers. The ordinance is not enforced, thus creating a menace to public health.

In addition to collecting refuse in residential and commercial areas, the Sanitation Section has the responsibility of sweeping the central business district. It also disposes of animals killed on the town streets.

Smithfield employs a sanitary landfill for refuse disposal. The town owns 95 acres of floodplain land in southwest Smithfield adjacent to the Neuse River. Since 1951, when this landfill was started, approximately 15 acres have been filled, leaving 80 acres, more than enough land to last throughout the planning period.

While Smithfield's sanitary landfill has many merits, some problems are created by the fact that the area is not enclosed

and anyone is free to dump their refuse in the area. Fires, insects and unsightly appearance have resulted. Private garbage collection agencies, operating in the county, are permitted to use the area for a fee charged by the town.

Personnel

Refuse collection and disposal in Smithfield is administered by the Department of Public Works, Sanitation Section which has an annual budget of \$70,920.

In addition to the foreman, the Sanitation Section employs 1 tractor operator who handles the sanitary landfill operation, 4 garbage and trash truck drivers, and 15 collectors. Each of these employees work 48 hours per week.

Equipment

The equipment of the Sanitation Department is stored in the yard of the town garage which provides maintenance and necessary repairs.

An inventory of the Sanitation Department's equipment includes one 1959, one 1961, and one 1963 packer-type collection truck with 16 yard bodies and one 1957 two ton open body truck used in trash removal. There is one 1959 utility pick-up truck and one 1964 crawler tractor with 4 in 1 bucket used in the sanitary landfill operation.

Standards

1. Collection of refuse in commercial and industrial areas should be on a daily basis. In residential areas, garbage must be collected at least every four days, and trash must be collected at least once a week.
2. While use of the landfill area for refuse disposal by private individuals and businesses may be allowed, rules and regulations should be established to control such disposal.

3. Ordinances concerning the type of trash and garbage containers used by the town's refuse customers should be rigidly enforced to protect the public well being.

Recommendations

1. The present personnel and equipment is adequate to serve the needs of the town, but annexation of the proposed adjacent areas will create the need of at least one more garbage collection truck and one more trash collection truck plus 3 new men for the garbage truck and 3 men for the trash collection truck by 1970. By 1985, it is projected that Smithfield will have a population of 15,439 or 3,994 dwelling units, thus creating the need for two additional garbage collection trucks and appropriate crews.
2. It is recommended that the town's ordinance requiring garbage to be placed in covered metal or plastic containers be rigidly enforced.
3. Regulations should be established to control the use of the sanitary landfill by private individuals or concerns and they should be rigidly enforced.

PARKS AND RECREATION

A park is usually a parcel of land, varying in size, dedicated to recreation uses. Both passive and active recreation promote good physical and emotional health, sound social adjustment and intellectual growth through social interaction.

The parks and recreation program in Smithfield is administered by a full-time recreation director directly responsible to the Recreation Commission. The Parks and Recreation Department has a 1966-67 budget of \$16,500 provided from the general fund. There is no recreation tax levied in Smithfield.

Existing Facilities

There are five parks and recreational areas maintained by the Town of Smithfield. These parks and their facilities are as follows:

1. Recreation Park - A ten acre tract owned by the town on Buffaloe Street between Fourth and Seventh Streets. This park has a lighted football and baseball field with bleachers, a concession stand, a field house and adequate dressing facilities. There is also a concrete outdoor basketball court, two lighted concrete tennis courts, two boy scout huts, a large picnic shelter and adequate playground equipment which includes swings, seesaws, and a merry-go-round.
2. Johnston Central Park - A ten acre tract leased from a private citizen for a period of 20 years. It is located on Belmont Street across from Johnston Central High School, a predominately Negro School. This park also has a lighted football and softball field, with a field house and a concession stand. Limited playground equipment is in use, and a new concrete basketball court has recently been completed.
3. Jaycee Kiddie Park - A two acre tract owned by the town at the corner of Church and Second Streets. This park contains

one lighted tennis court, a girl scout hut and various playground equipment.

4. Burlington Mills Playground - A four acre tract located at Hancock and Eleventh Streets and leased from Burlington Industries. This is a new park with no facilities and only playground equipment is planned. Since the lease agreement of this park specifies that the lessor can terminate the lease at its discretion, the value of the park is slight and shall not be considered for this study.
5. Little League Ball Park - A six acre tract owned and operated by the Civitan Club for the exclusive use of the Little League Baseball Club.

In the above mentioned parks a supervised recreation program is provided for the summer months only. They operate six hours per day, five days a week. For the 1966 summer program, an average of 350 persons made use of the parks each day, or approximately 15,750 day participants took part in the supervised program.

In addition to the five parks listed above, the Recreation Department makes use of part of the third floor of the Municipal Building which provides a large room for duplicate bridge and dancing. Also, one office is provided for the Recreation Director on the second floor.

Limited use is made of the school facilities for recreational purposes. During the summer, an arts and crafts workshop is held at the South Smithfield Elementary School. In the winter, the Smithfield High School gym is used twice weekly for adult basketball leagues and on Saturday mornings for a midget basketball program. Both of Smithfield's high schools use the Recreation Park for their football games.

Personnel

The only full-time employee of the Parks and Recreation Department is the recreation director. He has no clerical staff and his paper work is done by the secretary of the local Chamber of Commerce when her time permits.

However, eight employees are retained in the summer when the town's recreational service is in greatest demand. Three are playground directors, two are playground leaders, one is an aide at the most frequently used park and two are Youth Corps workers, used primarily for maintenance work.

Equipment

No maintenance or construction equipment is allotted to the Parks and Recreation Department. Upkeep of the parks is provided by the Department of Public Works. The only equipment allotted to the Parks and Recreation Department is the playground apparatus.

Programs

Smithfield's Parks and Recreation Department has a good program of active and passive recreation as follows:

<u>Active</u>	<u>Passive</u>
Kick Ball	Arts and Crafts
Softball	Music Program
1. Men's League	Drama and Public Shows
2. Women's League	Checker Tournaments
Baseball	Duplicate Bridge
1. Babe Ruth League	Art Guild
Basketball	
1. Men's League	
2. Women's League	
3. Midget League	

Standards

The standards used by most towns for parks and recreation have been based on those developed by the National Recreation Association and adapted to local conditions. Most of these standards have been developed for towns with much larger populations than Smithfield. Therefore, the following standards set forth may vary from other national standards.

The most generally accepted standard for total public recreation space is one acre for every 100 population. Presently Smithfield has a total of 34 acres of usable park space, or approximately one acre for every 186 population. It goes without saying that this ratio is entirely too low and correction is needed immediately. To bring Smithfield's total public recreation space up to the national standard, an additional 29 acres would have to be acquired. This seems somewhat high. A reasonable ratio would be one acre of space for 150 population or an additional 8 acres, provided that this additional space be situated to serve that part of the community that is presently without access to proper recreation areas.

Four basic types of recreation facilities shall be considered here that when combined should make up Smithfield's total park system.

1. Neighborhood Playground - A tract of land $2\frac{1}{2}$ to 10 acres in size developed to provide recreation for children from 5 to 15 years of age that should be located within $\frac{1}{2}$ mile of area to be served. The playground should contain playground apparatus, a wading pool, a shelter for passive recreation and lighted game fields for evening use. Supervision for all playground activities should be provided.
2. Neighborhood Park - A tract of land usually from 5 to 7 acres in size used primarily for passive recreation by all ages. Its service area should be no more than $\frac{1}{2}$ mile or within walking distance and should consist of sidewalks, trees, benches, statues, water fountains and play apparatus for small children.
3. Neighborhood Park - School - Playground - - The ideal location of a neighborhood park is adjoining the elementary school site and comprising from 10 to 20 acres, including the school site. The service area should extend no more than $\frac{1}{2}$ mile and recreation should be provided for all ages. Facilities should include playground equipment, turf field, open park, senior citizens area, tot-lot and game and picnic shelters.

4. General Recreation Building - A building that provides diversified facilities and is used for a wide range of activities and serves as a center for indoor recreation for the entire community. Size requirements will vary with population to be served, but generally there should be one community recreation center for every 12,000 to 15,000 population.

Personnel

1. Supervision of all playground activities is essential and should be administered by the director of recreation. In addition to the recreation director, the following staff personnel should be provided for each park operated by the town.

- 1 playground director
- 1 assistant playground director
- 1 recreation leader
- 1/3 special activity leader

PARKS

- LEGEND
- EXISTING
 - PARKS WITH $\frac{1}{2}$ MILE SERVICE AREA
 - PROPOSED
 - PARKS WITH $\frac{1}{2}$ MILE SERVICE AREA

MAP 1000



RECOMMENDATIONS

Facilities

1. As previously determined, Smithfield is presently deficient approximately eight acres of park area, and since the area of south Smithfield lacks any public recreation facility, it is recommended that a neighborhood playground of that size be provided in that area. The location of the playground should be adjoining the South Smithfield Elementary School if land is available at a reasonable price.
2. By 1970, it is projected that Smithfield will have a population of 13,785. If the ratio of one acre of park land per 150 population is to be attained, 51 more acres of land should be acquired. Since most of this new population growth will be through annexation of West Smithfield, recreation facilities should be provided for this area. By 1985, a population of 16,364 is anticipated, which will cause a need of an additional 16 acres of public recreation area. According to the Land Development Plan for Smithfield published in 1965, a broad area north of the corporate limits is designated for residential use. Thus, future park and recreation areas should be planned for this area. In addition, low lying swampy land along the Neuse River is designated as a natural land reserve. A large community park should be developed in the area with minimum expenditure and effort (see Map number 11).
3. A program of land acquisition should be developed to obtain future needed park and recreation lands prior to development to hold land costs down. In addition, land acquisition for schools and park areas should be coordinated to make full utilization of the school-park concept.
4. The recreation department should explore the possibility of wider use of the school system's facilities. The school gym could be used for dances, mass meetings as well as for organized active sports. Presently the school facilities are only partially used.

5. The Municipal Building could provide a broader winter program of indoor activities if available space is wisely used. There are several rooms in the Municipal Building that are now used for storage of Christmas decorations. These rooms could serve as space for special activities and other forms of passive recreation.
6. At the present, the Municipal Building could serve as the center of indoor activities. By 1980 Smithfield's population is projected to be 15,439. This is a sufficient population to support a recreation building and it is recommended that plans be developed now to provide such a facility by 1980. Federal assistance is available and should be requested.
7. The North Carolina Recreation Commission should be requested to assess the specific needs for a recreation program and means of implementation in face of the tremendous population gains anticipated for the planning period.
8. The Recreation Director, in cooperation with the Police Chief, is in the process of establishing a practice firing range on a site adjacent to the water treatment plant, which could be used by the police department to provide training for officers and by the recreation department to provide recreation for gun enthusiasts. It is recommended that such a firing range be established.

Personnel

1. One playground director, one assistant, one recreation leader and 1/3 special activity leader should be provided on a part-time basis for each park operated by the town.
2. Two full-time maintenance men and one full-time clerical worker should be provided for the Parks and Recreation Department.

CEMETERIES

Most towns provide cemeteries as a public service, but in view of rising costs the trend is toward commercial cemeteries. Smithfield is in a similar position. While it does provide this service, there are no plans for expanding the present facilities.

Existing Facilities

Smithfield operates three cemeteries, two of which are predominately white and one which is predominately Negro. Lots in the white cemeteries, Riverside and Oakland, sell for \$100. This is a 20 feet by 20 feet lot which contains enough room for four to six graves. The Rest Haven Cemetery lots sell for \$50.

The chart produced below will give some pertinent information as to size, past use and future adequacy of the public cemeteries in Smithfield.

TABLE NO. 5
SMITHFIELD CEMETERIES*

Name	Lots Sold or Developed	% of Total	Vacant or Unopened Lots	% of Total	Total Lots	Total Acres
Riverside	352	89.3	42	10.7	394	10
Oakland	319	68.4	147	31.6	466	12
Rest Haven	144	79.5	37	20.5	181	8
Total	815	78.2	226	21.8	1041	30

* As of August 1966.

Over 78 percent of all cemetery space has been sold or developed. Almost 90 percent of Riverside has been used. Rest Haven is almost 80 percent depleted and Oakland almost 70 percent depleted.

After discussion with local funeral people and after calculating the projected population increase and the death rate in the Smithfield planning area, it is estimated that 1,000 new

cemetery lots will be needed by 1985. Since there are 226 vacant lots in the three Smithfield cemeteries, approximately 774 new lots must be provided to accommodate burial of the dead.

Smithfield must decide whether to expand the present cemetery facilities, establish new ones, or retire from the field. Even if it does retire from the business, perpetual care will always be a tax supported service.

Personnel and Equipment

Two men, employed by the Public Works Department, maintain the three cemeteries in Smithfield. Two power mowers and one pick-up truck are used in maintenance work.

Standards

1. Cemeteries should be located on high land to prevent problems created by high water tables.
2. Cemeteries should be located so that drainage will not endanger the town's water supply.

Recommendations

1. It is recommended that a citizen's committee be appointed to study the problem and to advise the best course of action to take.

SCHOOLS

A community's school system must prepare a child for adult life, thus making the system the most important and basic factor in the community's life. A good school system provides a community with many benefits, directly and indirectly. Industry seeks areas for location where a well rounded school system is provided and capable teachers are drawn to above average school systems.

The public schools in Smithfield are a part of, and administered by, the County School System. There are two high schools and two elementary schools in Smithfield at the present. South Smithfield Elementary School and Smithfield High School are predominately white, and South Campus Elementary School and Johnston Central High School are predominately nonwhite.

Examining the table below, one may determine that there is an average of 25.4 students per classroom in the four schools located in Smithfield. This is an ideal situation for maximum teaching efficiency and maximum student participation. Also of interest is the fact that there are 24 students per teacher in these schools.

Size of school sites leaves something to be desired. The sites of South Campus and South Smithfield Elementary Schools are near standard, but Johnston Central and Smithfield High sites are totally inadequate. It should also be noted that these two schools are the oldest, being built in 1925 and 1911, respectively. This age, plus relatively small rooms and inadequately equipped rooms, has brought about the need for new facilities.

The enrollment trends of these schools are not unique. Both predominately white schools are increasing, while the predominately nonwhite school's enrollment is decreasing. This is a direct result of the decline in the nonwhite population in the Smithfield Township and in Johnston County.

Because of this decline in nonwhite enrollment, it is felt that the Johnston Central High School will be adequate for years to come. Also, the two elementary schools will be adequate for the next 20 years in face of the new high school that will be built north of Smithfield, which will replace the present Smithfield High School.

TABLE NO. 6
SMITHFIELD SCHOOLS

School Name	Site Size	No. of Teachers	Grades	No. of Buildings	No. of Class Rooms	Enrollment	Enrollment Trend	Service Area	Year Constructed
South Smithfield	10 Ac.	24	1-6	1	22	483*	Increase	Smithfield Township	1957
Smithfield High	16 Ac.	58	1-8 9-12	3	54	1,555*	Increase	Smithfield Township	1911
South Campus	13 Ac.	14	5-8	1	14	336*	Decrease	One-Fourth of County	1959
Johnston Central	6 Ac.	34	1-4 9-12	2	33	754*	Decrease	One-Fourth of County	1925
TOTALS	---	130	--	--	123	3,128	---	---	--
24 Students Per Teacher									
25.4 Students Per Classroom									

*1965

On September 30, 1966, a \$3 million bond issue was passed by the citizens of Johnston County, which will eventually consolidate the present ten high schools in the county into four larger and much improved high schools. Part of this money will finance a new high school between Smithfield and Selma on a 35 acre tract of land already purchased. The school will serve Smithfield, Selma, Wilson Mills, and Corinth-Holder areas. Thus, Smithfield High School will be replaced, leaving the old school for elementary and junior high school students, which will be greatly needed in the coming years to accommodate increased school enrollments.

Because of this consolidation, an updating or remodeling of Smithfield High School has been set aside until future goals and needs can be carefully assessed.

In 1960, Smithfield had a population of 6,117, of which 1,791 or 29.2% were of school age. By 1965, Smithfield's population had grown to 6,316 and in the one mile area around the city the estimated population was 2,601 for a total of 8,917. Assuming that the 1960 ratio would hold true, 29.2% of 8,917 is 2,604 school children. In 1965, school enrollment in the four schools in Smithfield was 3,128, of which 2,604 are assumed to have resided in the urban area and 524 resided outside of the urban area.

In 1965, 123 classrooms served 3,128 students in Smithfield's four schools. Of this enrollment, 83% of the students came from within the urban area and 17% outside of the urban area. Thus, 83% of the total classrooms or 102 needed to serve students within the urban area and 21 classrooms are needed to serve the students coming from outside of the urban area.

The urban area population is expected to increase rapidly, while the population in the remainder of the school's service area is expected to remain relatively stable. Therefore, the outside service area will require very few additional classrooms by 1985.

Below, Table No. 7 lists the classroom needs of the Smithfield planning area. It should be explained that while 25 students per classroom is considered ideal, most educators feel that 30 students per classroom should be the maximum.

TABLE NO. 7
CLASSROOM NEEDS 1965 - 1985

Year	Urban Area				Rural Area			
	Urban Area Population	No. of Students	Classrooms		No. of Students	Classrooms		
			25 Students Per Room	30 Students Per Room		25 Students Per Room	30 Students Per Room	
1965	8,917	2,604	102	86	524	21	18	
1970	13,785	4,020	161	134	550	22	18	
1975	14,612	4,270	171	142	575	23	19	
1980	15,439	4,508	180	150	600	24	20	
1985	16,364	4,778	191	159	625	25	21	

If a ratio of 25 students per classroom is to be maintained, 161 classrooms, or 59 more than the present 102, will be needed to serve the urban area. The absolute minimum would be 134, or 32 more than is presently used to serve the urban area. The new high school that is to be built north of Smithfield will supply approximately 40 classrooms. It is impossible to know how many of these 40 classrooms will be used exclusively for the Smithfield planning area. However, it is assumed that all of these new rooms will be used for students from Smithfield. Therefore, classroom needs will be fulfilled until approximately 1975.

By 1985, 191 classrooms will be needed to serve the urban area, or 89 more than the present 102 in order to maintain the 25 students per classroom ratio. To maintain the 30 students per classroom ratio the minimum classrooms needed by 1985 will be 159, or 57 more.

Standards

1. Schools should be located near the center of population and surrounding land uses should be compatible and conducive to good educational uses.
2. Where feasible, integration with a park should be employed to prevent duplication of recreational facilities.
3. According to the Division of School Planning, N. C. Department of Public Instruction, walking distances from the three types of schools should be:
 - A. Elementary - $\frac{1}{2}$ mile to $\frac{3}{4}$ mile maximum
 - B. Junior High - 1 mile to $1\frac{1}{2}$ miles maximum
 - C. Senior High - $1\frac{1}{2}$ mile to 2 miles maximum.
4. School site sizes should meet the following standards: *
 - A. Elementary - 5 acres plus 1 acre for each 100 enrollment
 - B. Junior High - 10 acres plus 1 acre for each 100 enrollment
 - C. Senior High - 20 acres plus 1 acre for each 100 enrollment.

*Source: Guide For Planning School Plants (National Council on Schoolhouse Construction, 1958), p. 22.

5. Student enrollments should conform to the following standards according to the Division of School Planning, N. C. Department of Public Instruction:
 - A. Elementary (grades 1-6) - 400 to 600 pupils
 - B. Junior High (grades 7-9) - 500 to 750 pupils
 - C. Senior High - Rural (grades 10-12) - 750 to 1200 pupils
 - D. Senior High - Urban (grades 10-12) - 750 to 1800 pupils.
6. There should be between 25 and 30 students per classroom for maximum teaching efficiency.

Recommendations

1. It is recommended that the County School Board strive to maintain a maximum ratio of 30 students per classroom in order that maximum teaching efficiency will result.
2. Future projected population by 1985 will greatly tax the present and future school capacities in the Smithfield area. Therefore, it is recommended that plans be made for another bond issue by 1970 to provide funds for an additional 50 to 60 classrooms that will be needed between 1975 and 1985.
3. Wherever possible, school sites should be unified with a park.

LIBRARY SYSTEM

According to Standards for N. C. Public Libraries, "the public library is an educational institution which exists to provide people of all ages and all interests with the means of continuing education."

On July 1, 1966, the Smithfield Public Library and the Johnston County Library were combined to form a headquarters of the County Library System. This system will offer book-binding, book loaning, and other services to other libraries within the county. This headquarters will also provide library facilities for the entire county, through the bookmobile and through the new library in Smithfield. While the county system helps finance and provides special services to the other libraries within the county, the county does not control these libraries.

This new library system will be housed in a new and modern building, with 19,041 square feet of floor space, on property in downtown Smithfield which was a gift to the county and town. This new library was financed by funds from the federal government, by donations from the town and county governments and by private donations. A total of \$450,000, which includes \$403,000 for the construction of the building, and \$47,000 for fixtures and equipment was raised. Included in this new facility is a meeting room and exhibit area, increased reading and study space, a greatly expanded reference collection, a storage area for little used and duplicate materials, room for housing and showing audio-visual materials, and a local history room. It should be ready for occupancy by April 15, 1967.

No off-street parking will be provided by this library but in the same block there is a public parking lot and one block away is a public parking lot. Since the new library will be located in the central business district, convenience to downtown shoppers should encourage more use of its facilities.

The Johnston County Bookmobile, which operates from the Johnston County Library, had a circulation of 71,873 books for

the 1965-66 fiscal year. While the body of the Bookmobile was purchased in 1954, a new chassis was installed in 1966.

Table No. 8 gives pertinent facts about the Johnston County Public Library System at the end of the fiscal year 1965-66.

Benson's Library had 9.7 circulations per volume for the 1965-66 fiscal year. Benson's Library was also the only library with more than two volumes per capita. The Pine Level Library had 0.6 circulations per volume, and the County averaged only 2.9 circulations per volume and only 0.9 volumes per capita. From reviewing these comparisons, one may determine the main problem confronting the libraries of Johnston County. More books must be obtained and more people must be encouraged to use the library facilities.

Personnel

The personnel staff includes a supervisor or head librarian, one bookmobile librarian, one circulation librarian, one book-keeper, two library assistants and one part-time library assistant. All of these are presently operating the two facilities now and when the new library is opened, one additional staff member will be hired.

Hours of operation will be 9:00 a.m. to 9:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturday, for a total of 69 hours per week. It is presently anticipated that there will be a total of 59,290 books in the new library, after new purchases and donations.

In addition to the services provided by the new library mentioned above, more emphasis will be placed on extension services, adult education, and on preserving the history of Johnston County.

TABLE NO. 8
JOHNSTON COUNTY LIBRARY COMPARISONS
FISCAL YEAR 1965-66

Libraries	1960 Population Served	Hours of Operation Per Week	Total Volumes	Circulation	Circulation		
					Per Capita	Per Volume	Volumes Per Capita
Atkinson Memorial	----	6	785	1,343	---	1.7	---
Benson	2,355	36	6,213	22,768	9.7	3.7	2.6
Clayton	3,302	20	3,307	14,082	4.3	4.3	1.0
Four Oaks	1,010	6	1,592	5,958	5.9	3.7	1.6
Kenly	1,147	9	831	5,036	4.4	6.1	0.7
Pine Level	833	3	605	527	0.6	0.9	0.7
Selma	3,012	27	2,801	12,001	4.0	4.3	0.9
Headquarters	62,936	69	42,772	120,319	---	---	---
TOTALS	----	--	58,906	182,034	2.9	3.0	0.9

Standards

Realizing that the library facilities in North Carolina as a whole, were deficient according to national standards, the North Carolina Library Association set about to establish standards for libraries in the state. These standards will be used, in part, for this study.

1. A library should be freely available to all the people, should be convenient, accessible and comfortably designed, and should provide a means of self-education through guidance programs.
2. A library should be open a minimum of 30 hours each week with a regular schedule of hours for some morning, afternoon and evening use.
3. Bookmobiles should be provided for remote areas where demand for its use is warranted.
4. The collection should include a minimum of two books per capita.
5. Four thousand to five thousand new titles should be added to the collection annually, of which 25% of these be allotted to books for children.
6. There should be one full-time staff member for every 3,000 population in the area served, and one-third of the staff should be professional librarians certified by the state.
7. A library should provide approximately one-half square foot of floor space for each person in the service area, and no library should contain less than 1,500 square feet.

Recommendations

1. Some limited time parking should be made available near the entrance for people to drop off and pick up children and for picking up and returning books. A drive-in book depository would be a major improvement.
2. It is recommended that Johnston County and Smithfield initiate a drive to double the number of volumes in the county library system.

3. Plans are to employ one additional staff member and it is recommended that this member be a trained librarian.
4. Circulation per capita and per volume is generally low in the County Library System. Thus, a program should be launched to encourage greater use of the available facilities.

HOSPITALS

Urban growth is affected by the presence of modern and efficient medical care services. This is true of Smithfield, whose growth is projected to skyrocket by the recent influx of new industry into the area. There is no doubt that the medical services which are offered in Smithfield played an important role in this industrial location.

Medical services are provided to Smithfield and Johnston County by the Johnston Memorial Hospital which opened its doors in December, 1951. It provided 162 beds and 12 bassinets for 5,912 patients in 1965-66. The hospital plant is situated on a 31 acre tract of land located off of Highway 301 in northeast Smithfield. In addition to the hospital, the Johnston County Health Department, and a nurses home, which provides room for 30 nurses, are located on the same site.

The Hospital Board of Trustees is a nine member board appointed by the County Commissioners. The Board appoints the hospital administrator. In addition to providing health services for in-patient care, Johnston Memorial also provides training for X-Ray Technicians and Laboratory Technicians.

The service area of the hospital is Johnston County. From 1952 through 1960, 91.17 percent of all patients were from within the county. The proximity of hospitals in Raleigh, Durham and Chapel Hill limit this service area, thereby, limiting the size of the existing hospital.

Standards

1. A general hospital should be located for easy access by its patrons, and in an area uncongested, free from noises and traffic problems.
2. Site size should allow 100 percent expansion of the building without causing over-crowded conditions.
3. Generally, 4.5 beds per 1,000 population is recommended by the American Public Health Association.

4. Parking provided for visitors should be at least one space for each four beds. One parking space for each active doctor and one space for each four employees.
5. The power source for the hospital should come from two separate feeder circuits.

Recommendations

1. There were almost 63,000 people in Johnston County in 1960. Using the 4.5 beds per 1,000 population ratio, Johnston Memorial Hospital would need approximately 280 beds to meet the American Public Health Association standard. This figure is too high in light of two major factors: (1) Johnston County is going to lose approximately 10,000 people by 1980, according to past trends^{1/} and (2) the proximity of hospitals in Raleigh, Durham and Chapel Hill. Therefore, a standard of 3.5 beds per 1,000 population would seem to be more realistic, giving a desired and reasonable 220 bed hospital in Johnston County. The addition of these 58 new beds should be taken under consideration by the Hospital Board of Trustees and the County Commissioners.
2. Parking facilities should be increased to meet the needs of these additional beds. There should be a minimum of 55 spaces provided for visitors, 25 spaces for the active doctors on the staff, and 50 spaces for other hospital employees.
3. It is recommended that the power source should come from two separate feeder circuits. This construction should be undertaken immediately.

^{1/} 1980 Population Projections for North Carolina Counties, Josef H. Perry, Division of Community Planning, January, 1964.

STATE LIBRARY OF NORTH CAROLINA



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